Report NO.: RZA2009-0503

TESTING
No. L2264

# OET 65

# TEST REPORT

| | |
|---|---|
| **Product Name** | HSUPA USB Modem |
| **Model** | MF633 |
| **FCC ID** | Q78-ZTEMF633 |
| **Client** | ZTE CORPORATION |

**TA Technology (Shanghai) Co., Ltd.**

# GENERAL SUMMARY

| | | | |
|---|---|---|---|
| **Product Name** | HSUPA USB Modem | **Model** | MF633 |
| **FCC ID** | Q78-ZTEMF633 | **Report No.** | RZA2009-0503 |
| **Client** | ZTE CORPORATION | | |
| **Manufacturer** | ZTE CORPORATION | | |
| **Reference Standard(s)** | **ANSI/IEEE C95.1-1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.<br><br>**OET Bulletin 65 supplement C, published June 2001 including DA 02-1438, published June 2002:** Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits. Transition Period for the Phantom Requirements of Supplement C to OET Bulletin 65.<br><br>**IEC 62209-2:2008(106/162/CDV):** Human exposure to radio frequency fields from handheld and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR)for wireless communication devices used in close proximity to the human body .( frequency rang of 30MHz to 6GHz ) | | |
| **Conclusion** | This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 7 of this test report are below limits specified in the relevant standards.<br><br>General Judgment: **Pass**<br><br>(Stamp)<br>**Date of issue: August 25th, 2009** | | |
| **Comment** | The test result only responds to the measured sample. | | |

**Approved by** Yang Weizhong **Revised by** Ling Minbao **Performed by** Li Jinchang

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# 1. General Information

## 1.1. Notes of the test report

**TA Technology (Shanghai) Co., Ltd.** guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

**TA Technology (Shanghai) Co., Ltd.** is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

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## 1.3. Applicant Information

| | |
|---|---|
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## 1.4. Manufacturer Information

| | |
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| Postal Code: | 518057 |
| Country: | P.R.China |
| Telephone: | 021-68897541 |
| Fax: | 021-50801070 |

## 1.5. Information of EUT

**General information**

| | | | |
|---|---|---|---|
| Device type : | portable device | | |
| Exposure category: | uncontrolled environment / general population | | |
| Name of EUT: | HSUPA USB Modem | | |
| IMEI or SN: | 352018030003426 | | |
| Device operating configurations : | | | |
| Operating mode(s): | GSM850; （tested）<br>GSM1900; （tested）<br>WCDMA Band II; (tested)<br>WCDMA Band V; (tested) | | |
| Test modulation: | GMSK, QPSK | | |
| GPRS mobile station class : | B | | |
| GPRS multislot class : | 10 | | |
| EGPRS multislot class: | 12 | | |
| HSDPA UE category: | 8 | | |
| HSUPA UE category: | 6 | | |
| Operating frequency range(s) | Band | Tx (MHz) | Rx (MHz) |
| | GSM850 | 824.2 ~ 848.8 | 869.2 ~ 893.8 |
| | GSM1900 | 1850.2 ~ 1909.8 | 1930.2 ~ 1989.8 |
| | WCDMA Band II | 1852.4 ~ 1907.6 | 1932.4 ~ 1987.6. |
| | WCDMA Band V | 826.4 ~ 846.6 | 871.4 ~ 891.6 |
| Power class | GSM 850: 4, tested with power level 5 | | |
| | GSM 1900: 1, tested with power level 0 | | |
| | WCDMA Band II: 3, tested with maximum output power | | |
| | WCDMA Band V: 3, tested with maximum output power | | |
| Test channel<br>(Low –Middle –High) | 128 -190 - 251 (GSM850) (tested)<br>512 - 661 - 810 (GSM1900) (tested)<br>9262 - 9400 - 9538 (WCDMA Band II) (tested)<br>4132 - 4183 - 4233 (WCDMA Band V) (tested) | | |
| Hardware version: | P673C1-2.0.0 | | |
| Software version: | BD_P673C1V1.0.0B04 | | |
| Antenna type: | Internal antenna | | |
| Used host products: | IBM T61<br>BenQ Joybook R55V | | |

Equipment Under Test (EUT) is a HSUPA USB Modem with internal antenna. And the antenna can rotate from 0 degree to 360 degree. During SAR test of the EUT, it was connected to a portable computer. SAR is tested for the EUT respectively for GSM 850, GSM1900, WCDMA Band II and WCDMA Band V. The EUT have GPRS (class 10), EGPRS (class 12), WCDMA, HSDPA (category 8) and HSUPA (category 6) functions.

The sample undergoing test was selected by the Client.

Components list please refer to documents of the manufacturer.

## 1.6. Test Date

The test is performed from July 23, 2009 to July 25, 2009.

# 2. Operational Conditions during Test

## 2.1. General description of test procedures

Connection to the EUT is established via air interface with E5515C, and the EUT is set to maximum output power by E5515C. The antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the EUT. The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the EUT by at least 30 dB.

Since the EUT only has the data transfer function, but does not have the voice transfer function, the tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS and EGPRS, The tests in the band of WCDMA Band II and WCDMA Band V are performed in the mode of WCDMA and HSDPA/HSUPA. The measurements were performed in combination with two host product (IBM T61, BenQ Joybook R55V). IBM T61 laptop has vertical USB slot and BenQ Joybook R55V laptop has horizontal USB slot.

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## 2.2. GSM Test Configuration

For the body SAR tests for GSM 850, GSM 1900, a communication link is set up with a System Simulator (SS) by air link. The EUT is commanded to operate at maximum transmitting power. Since the EUT only has the data transfer function, but does not have the speech transfer function. The tests in the band of GSM 850, GSM 1900 are only performed in the mode of GPRS and EGPRS. The GPRS class is 10 for this EUT; it has at most 2 timeslots in uplink. The EGPRS class is 12 for this EUT; it has at most 4 timeslots in uplink.

## 2.3. WCDMA Test Configuration

As the SAR body tests for WCDMA Band II and WCDMA Band V, we established the radio link through call processing. The maximum output power were verified on high, middle and low channels for each test band according to 3GPP TS 34.121 with the following configuration:

1) 12.2kbps RMC, 64,144,384 kbps RMC with TPC set to all ''all '1's"
2) Test loop Mode 1

For the output power, the configurations for the DPCCH and $DPDCH_1$ are as followed (EUT do not support the $DPDCH_{2-n}$)

**Table 1：The configurations for the DPCCH and $DPDCH_1$**

| | Channel Bit Rate(kbps) | Channel Symbol Rate(ksps) | Spreading Factor | Spreading Code Number | Bits/Slot |
|---|---|---|---|---|---|
| DPCCH | 15 | 15 | 256 | 0 | 10 |
| $DPDCH_1$ | 15 | 15 | 256 | 64 | 10 |
| | 30 | 30 | 128 | 32 | 20 |
| | 60 | 60 | 64 | 16 | 40 |
| | 120 | 120 | 32 | 8 | 80 |
| | 240 | 240 | 16 | 4 | 160 |
| | 480 | 480 | 8 | 2 | 320 |
| | 960 | 960 | 4 | 1 | 640 |

SAR is tested with 12.2kps RMC and not required for other spreading codes (64,144, and 384 kbps RMC) and multiple $DPDCH_n$, because the maximum output power for each of these other configurations<0.25dB higher than 12.2kbps RMC and the multiple $DPDCH_n$ is not applicable for the EUT.

## 2.4. HSUPA Test Configuration

Body SAR is also measured for HSPA when the maximum average output of each RF channel with HSPA active is at least ¼ dB higher than that measured without HSPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is above 75% of the SAR limit. Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 with power control algorithm 2, according to the highest body SAR configuration in 12.2 kbps RMC without HSPA.[40]

Due to inner loop power control requirements in HSPA, a commercial communication test set should be used for the output power and SAR tests.[41] The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA should be configured according to the β values indicated below as well as other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of 3 G device.

**Table 2：Sub-Test 5 Setup for Release 6 HSUPA**

| Sub-set | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{hs}$ (1) | $\beta_{ec}$ | $\beta_{ed}$ | $\beta_{ed}$ (SF) | $\beta_{ed}$ (codes) | CM (2) (dB) | MPR (dB) | AG (4) Index | E-TFCI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11/15 (3) | 15/15 (3) | 64 | 11/15 (3) | 22/15 | 209/225 | 1039/225 | 4 | 1 | 1.0 | 0.0 | 20 | 75 |
| 2 | 6/15 | 15/15 | 64 | 6/15 | 12/15 | 12/15 | 94/75 | 4 | 1 | 3.0 | 2.0 | 12 | 67 |
| 3 | 15/15 | 9/15 | 64 | 15/9 | 30/15 | 30/15 | $\beta_{ed1}$:47/15 $\beta_{ed2}$:47/15 | 4 | 2 | 2.0 | 1.0 | 15 | 92 |
| 4 | 2/15 | 15/15 | 64 | 2/15 | 4/15 | 2/15 | 56/75 | 4 | 1 | 3.0 | 2.0 | 17 | 71 |
| 5 | 15/15 (4) | 15/15 (4) | 64 | 15/15 (4) | 30/15 | 24/15 | 134/15 | 4 | 1 | 1.0 | 0.0 | 21 | 81 |

Note 1: $\Delta_{ACK}$, $\Delta$NACK and $\Delta_{CQI}$ = 8 $\Leftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c$ = 30/15 $\Leftrightarrow$ $\beta_{hs}$= 30/15 *$\beta_c$.

Note 2: CM = 1 for βc/βd =12/15, $\beta_{hs}/\beta_c$ =24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-
DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the βc/βd ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the
signaled gain factors for the reference TFC (TF1, TF1) to βc = 10/15 and βd = 15/15.

Note 4: For subtest 5 the βc/βd ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the
signaled gain factors for the reference TFC (TF1, TF1) to βc = 14/15 and βd = 15/15.

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6: βed can not be set directly; it is set by Absolute Grant Value.

**Table 3: HSUPA UE category**

| UE E-DCH Category | Maximum E-DCH Codes Transmitted | Number of HARQ Processes | E-DCH TTI (ms) | Minimum Spreading Factor | Maximum E-DCH Transport Block Bits | Max Rate (Mbps) |
|---|---|---|---|---|---|---|
| 1 | 1 | 4 | 10 | 4 | 7110 | 0.7296 |
| 2 | 2 | 8 | 2 | 4 | 2798 | 1.4592 |
| | 2 | 4 | 10 | 4 | 14484 | |
| 3 | 2 | 4 | 10 | 4 | 14484 | 1.4592 |
| 4 | 2 | 8 | 2 | 2 | 5772 | 2.9185 |
| | 2 | 4 | 10 | 2 | 20000 | 2.00 |
| 5 | 2 | 4 | 10 | 2 | 20000 | 2.00 |
| 6 (No DPDCH) | 4 | 8 | 2 | 2 SF2 & 2 SF4 | 11484 | 5.76 |
| | 4 | 4 | 10 | | 20000 | 2.00 |
| 7 (No DPDCH) | 4 | 8 | 2 | 2 SF2 & 2 SF4 | 22996 | ? |
| | 4 | 4 | 10 | | 20000 | ? |

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.
UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)

## 2.5. Position of module in Portable devices

The measurements were performed in combination with two host product (IBMT61, BenQ Joybook R55V). IBM T61 laptop has vertical USB slot and BenQ Joybook R55V laptop has horizontal USB slot.

A test distance of 5mm or less, according to KDB 447498, should be considered for the orientation that can satisfy such requirements.

For each channel, the EUT is tested at the following 5 test positions:

- Test Position 1: The EUT is connected to the portable computer with horizontal USB slot. The back side of the EUT towards the bottom of the flat phantom. (ANNEX H Picture 6）
- Test Position 2: The EUT is connected to the portable computer with horizontal USB slot. The front side of the EUT towards the bottom of the flat phantom. (ANNEX H Picture 7）
- Test Position3: The EUT is connected to the portable computer with horizontal USB slot. The top side of the EUT towards the bottom of the flat phantom.（ANNEX H Picture 8）
- Test Position 4: The EUT is connected to the portable computer with vertical USB slot. The left side of the EUT towards the bottom of the flat phantom. (ANNEX H Picture 9）
- Test Position 5: The EUT is connected to the portable computer with vertical USB slot. The right side of the EUT towards the bottom of the flat phantom.（ANNEX H Picture 10）

## 2.6. Picture of host product

During the test, IBM T61 and BenQ Joybook R55V laptop was used as an assistant to help to setup communication. (See Picture 1)

Picture 1-a: IBM T61 Close

Picture 1-b: IBM T61 Open

Picture 1-c: BenQ Joybook R55V Close

Picture 1-d: BenQ Joybook R55V Open

Picture 1-e: BenQ Joy book R55V with horizontal USB slot

Picture 1-f: BenQ Joy book R55V with horizontal USB slot

Picture 1-g: IBM T61 with Vertical USB slot

**Picture 1: Computer as a test assistant**

# 3. SAR Measurements System Configuration

## 3.1. SAR Measurement Set-up

The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY4 measurement server.
- The DASY4 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003
- DASY4 software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.

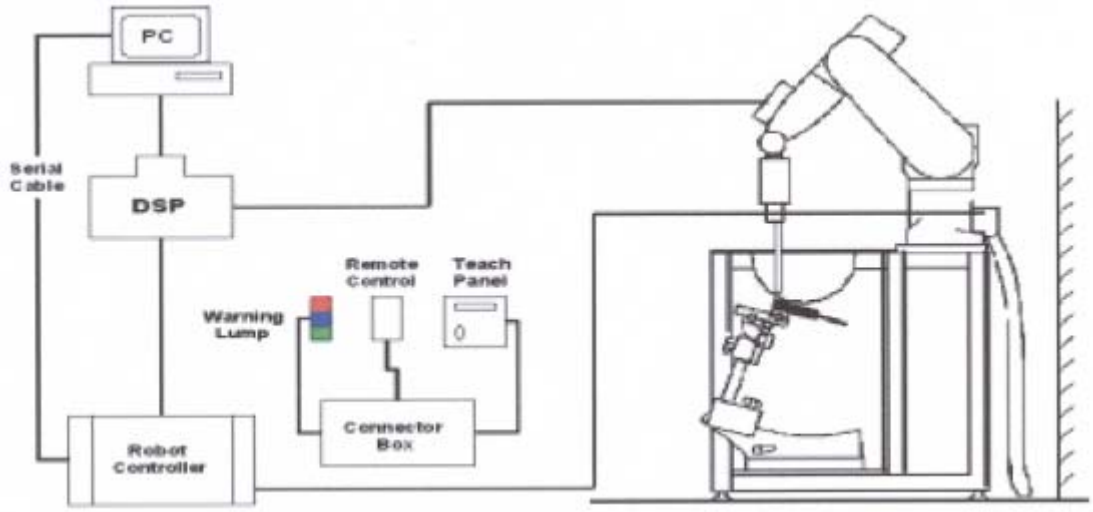


**Figure 1. SAR Lab Test Measurement Set-up**

## 3.2. Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

### 3.2.1. EX3DV4 Probe Specification

| | |
|---|---|
| Construction | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |
| Calibration | Basic Broad Band Calibration in air<br>Conversion Factors (CF) for HSL 900 and HSL 1750<br>Additional CF for other liquids and frequencies upon request |
| Frequency | 10 MHz to > 6 GHz<br>Linearity: ± 0.2 dB<br>(30 MHz to 6 GHz) |
| Directivity | ± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis) |
| Dynamic Range | 10 μW/g to > 100 mW/g Linearity:<br>± 0.2dB (noise: typically < 1 μW/g) |
| Dimensions | Overall length: 330 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm |
| Application | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields).<br>Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%. |

**Figure 2.EX3DV4 E-field Probe**

**Figure 3. EX3DV4 E-field probe**

### 3.2.2. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where: $\Delta t$ = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
$\Delta T$ = Temperature increase due to RF exposure.
Or

$$SAR = \frac{|E|^2 \sigma}{\rho}$$

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m3).

## 3.3. Other Test Equipment

### 3.3.1. Device Holder for Transmitters

The DASY device holder is designed to cope with the die rent positions given in the standard.
It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the inference of the clamp on the test results could thus be lowered.

**Figure 4.Device Holder**

### 3.3.2. Phantom

The Generic Twin Phantom is constructed of a fiberglass shell integrated in a wooden Figure. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

| | |
|---|---|
| Shell Thickness | 2±0.1 mm |
| Filling Volume | Approx. 20 liters |
| Dimensions | 810 x l000 x 500 mm (H x L x W) |
| Aailable | Special |

**Figure 5.Generic Twin Phantom**

## 3.4. Scanning procedure

The DASY4 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The ”reference“ and ”drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

- The ”surface check“ measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- Area Scan

  The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot.Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains

unchanged.
After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

- Zoom Scan
  Zoom Scans are used to estimate the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan is done by 7x7x7 points within a cube whose base is centered around the maxima found in the preceding area scan.

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY4 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 7x7x7 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

## 3.5. Data Storage and Evaluation

### 3.5.1. Data Storage

The DASY4 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

### 3.5.2. Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

| | | |
|---|---|---|
| Probe parameters: | - Sensitivity | Normi, $ai_0$, $a_{i1}$, $a_{i2}$ |
| | - Conversion factor | $ConvF_i$ |
| | - Diode compression point | $Dcp_i$ |
| Device parameters: | - Frequency | f |
| | - Crest factor | cf |
| Media parameters: | - Conductivity | |
| | - Density | |

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY4 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot c f / d c p_i$$

With $V_i$ = compensated signal of channel i ( i = x, y, z )

$U_i$ = input signal of channel i ( i = x, y, z )

$cf$ = crest factor of exciting field (DASY parameter)

$dcp_i$ = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes: $E_i = ( V_i / Norm_i \cdot ConvF )^{1/2}$

H-field probes: $H_i = ( V_i )^{1/2} \cdot ( a_{i0} + a_{i1} f + a_{i2} f^2 ) / f$

With $V_i$ = compensated signal of channel i (i = x, y, z)

$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
$[mV/(V/m)^2]$ for E-field Probes

$ConvF$ = sensitivity enhancement in solution

$a_{ij}$ = sensor sensitivity factors for H-field probes

$f$ = carrier frequency [GHz]

$E_i$ = electric field strength of channel i in V/m

$H_i$ = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = ( E_{tot}^2 \cdot \ . ) / (\quad \cdot 1000)$$

with $\boldsymbol{SAR}$ = local specific absorption rate in mW/g

$\boldsymbol{E_{tot}}$ = total field strength in V/m

$\sigma$ = conductivity in [mho/m] or [Siemens/m]

$\rho$ = equivalent tissue density in g/cm$^3$

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad \boldsymbol{P_{pwe} = H_{tot}^2 \cdot 37.7}$$

with $P_{pwe}$ = equivalent power density of a plane wave in mW/cm$^2$

$\boldsymbol{E_{tot}}$ = total electric field strength in V/m

$\boldsymbol{H_{tot}}$ = total magnetic field strength in A/m

## 3.6. System check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in the table 8.

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system (±10 %).

System check is performed regularly on all frequency bands where tests are performed with the DASY 4 system.

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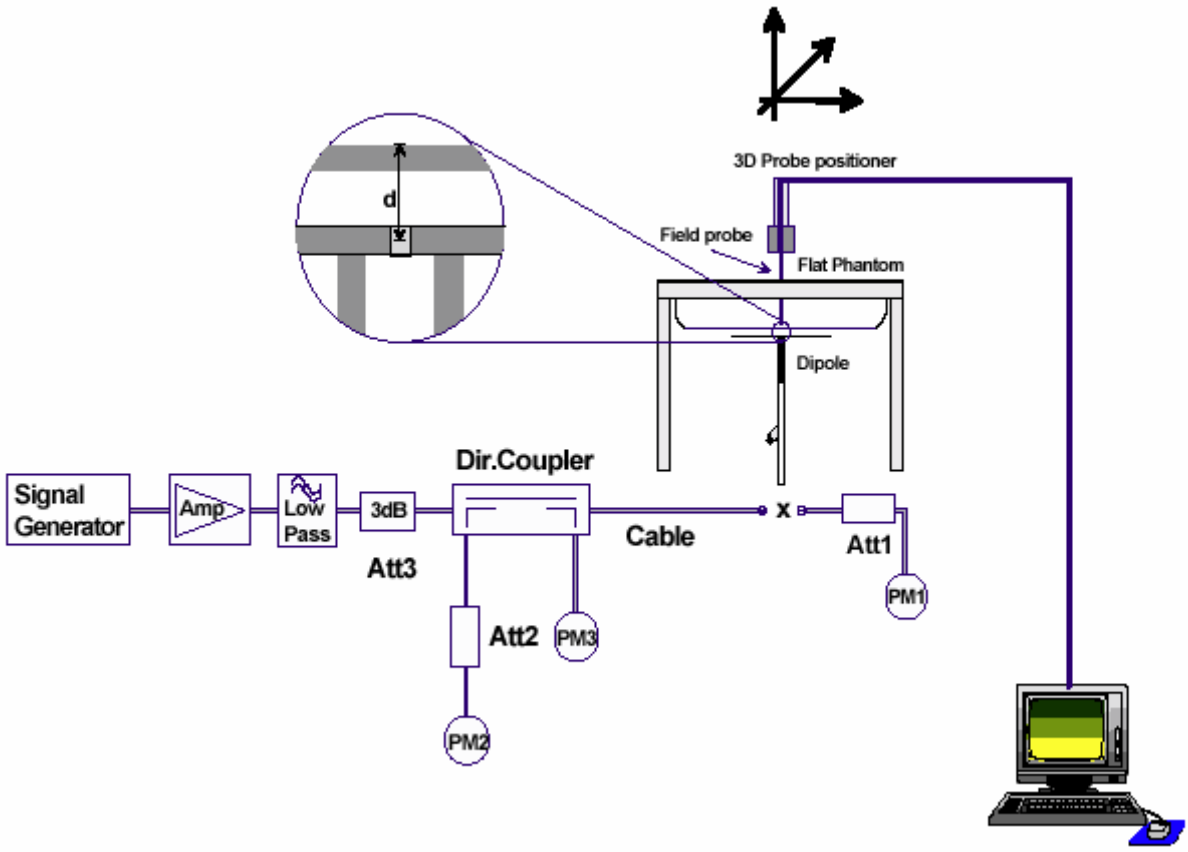



**Figure 6. System Check Set-up**

## 3.7. Equivalent Tissues

The liquid is consisted of water, sugar, salt, Glycol monobutyl, Preventol and Cellulose. The liquid has previously been proven to be suited for worst-case. The Table 4 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by OET 65.

**Table 4: Composition of the Body Tissue Equivalent Matter**

| MIXTURE% | FREQUENCY(Body)835MHz |
|---|---|
| Water | 52.5 |
| Sugar | 45 |
| Salt | 1.4 |
| Preventol | 0.1 |
| Cellulose | 1.0 |
| Dielectric Parameters Target Value | f=835MHz ε=55.2 σ=0.97 |

| MIXTURE% | FREQUENCY (Body) 1900MHz |
|---|---|
| Water | 69.91 |
| Glycol monobutyl | 29.96 |
| Salt | 0.13 |
| Dielectric Parameters Target Value | f=1900MHz ε=53.3 σ=1.52 |

# 4. Laboratory Environment

**Table 5: The Ambient Conditions during Test**

| | |
|---|---|
| Temperature | Min. = 20°C, Max. = 25 °C |
| Relative humidity | Min. = 30%, Max. = 70% |
| Ground system resistance | < 0.5 Ω |
| Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards. | |

# 5. Characteristics of the Test

## 5.1. Applicable Limit Regulations

**ANSI/IEEE C95.1-1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

## 5.2. Applicable Measurement Standards

**OET Bulletin 65 supplement C, published June 2001 including DA 02-1438, published June 2002:** Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits. Transition Period for the Phantom Requirements of Supplement C to OET Bulletin 65.

**IEC 62209-2:2008(106/162/CDV):** Human exposure to radio frequency fields from handheld and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR)for wireless communication devices used in close proximity to the human body .( frequency rang of 30MHz to 6GHz ).

# 6. Conducted Output Power Measurement

## 6.1. Summary

The DUT is tested using an E5515C communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power. Conducted output power was measured using an integrated RF connector and attached RF cable. This result contains conducted output power for the EUT.

## 6.2. Conducted Power Results

**Table 6: Conducted Power Measurement Results**

| GSM 850+GPRS | | Conducted Power | | |
|---|---|---|---|---|
| | | Channel 128 | Channel 190 | Channel 251 |
| 1TS | Before Test (dBm) | 32.77 | 32.66 | 32.43 |
| | After Test (dBm) | 32.76 | 32.64 | 32.41 |
| 2TS | Before Test (dBm) | 30.71 | 30.62 | 30.40 |
| | After Test (dBm) | 30.70 | 30.64 | 30.41 |
| **GSM 850+EGPRS** | | **Conducted Power** | | |
| | | Channel 128 | Channel 190 | Channel 251 |
| 1TS | Before Test (dBm) | 27.40 | 27.32 | 26.92 |
| | After Test (dBm) | 27.41 | 27.31 | 26.91 |
| 2TS | Before Test (dBm) | 24.05 | 24.05 | 24.38 |
| | After Test (dBm) | 24.04 | 24.04 | 24.37 |
| 3TS | Before Test (dBm) | 21.98 | 21.88 | 21.70 |
| | After Test (dBm) | 21.97 | 21.87 | 21.71 |
| 4TS | Before Test (dBm) | 20.75 | 20.68 | 20.55 |
| | After Test (dBm) | 20.73 | 20.67 | 20.54 |
| **GSM 1900+GPRS** | | **Conducted Power** | | |
| | | Channel 512 | Channel 661 | Channel 810 |
| 1TS | Before Test (dBm) | 28.43 | 28.52 | 28.61 |
| | After Test (dBm) | 28.42 | 28.52 | 28.62 |
| 2TS | Before Test (dBm) | 26.28 | 26.48 | 26.65 |
| | After Test (dBm) | 26.26 | 26.46 | 26.64 |
| **GSM 1900+EGPRS** | | **Conducted Power** | | |
| | | Channel 512 | Channel 661 | Channel 810 |
| 1TS | Before Test (dBm) | 24.20 | 24.18 | 24.68 |
| | After Test (dBm) | 24.21 | 24.17 | 24.69 |
| 2TS | Before Test (dBm) | 21.85 | 21.77 | 22.13 |
| | After Test (dBm) | 21.84 | 21.76 | 22.14 |
| 3TS | Before Test (dBm) | 19.75 | 19.95 | 20.04 |
| | After Test (dBm) | 19.74 | 19.94 | 20.03 |

| | | | | |
|---|---|---|---|---|
| **4TS** | Before Test (dBm) | 18.66 | 18.82 | 18.92 |
| | After Test (dBm) | 18.67 | 18.83 | 18.93 |
| **WCDMA Band II (12.2kbps RMC)** | | **Conducted Power** | | |
| | | Channel 9262 | Channel 9400 | Channel 9538 |
| Before Test (dBm) | | 20.98 | 20.90 | 21.14 |
| After Test (dBm) | | 20.97 | 20.91 | 21.12 |
| **WCDMA Band II+HSUPA** | | **Conducted Power** | | |
| | | Channel 9262 | Channel 9400 | Channel 9538 |
| **Sub - Test 1** | Before Test (dBm) | 19.93 | 21.12 | 20.86 |
| | After Test (dBm) | 19.91 | 21.11 | 20.87 |
| **Sub - Test 2** | Before Test (dBm) | 18.86 | 19.31 | 20.41 |
| | After Test (dBm) | 18.85 | 19.32 | 20.42 |
| **Sub - Test 3** | Before Test (dBm) | 19.30 | 20.41 | 20.05 |
| | After Test (dBm) | 19.32 | 20.43 | 20.03 |
| **Sub - Test 4** | Before Test (dBm) | 19.60 | 20.05 | 19.61 |
| | After Test (dBm) | 19.62 | 20.05 | 19.62 |
| **Sub - Test 5** | Before Test (dBm) | 19.89 | 20.12 | 20.31 |
| | After Test (dBm) | 19.87 | 20.11 | 20.33 |
| **WCDMA Band V (12.2kbps RMC)** | | **Conducted Power** | | |
| | | Channel 4132 | Channel 4183 | Channel 4233 |
| Before Test (dBm) | | 20.88 | 20.83 | 20.77 |
| After Test (dBm) | | 20.87 | 20.82 | 20.76 |
| **WCDMA Band V+HSUPA** | | **Conducted Power** | | |
| | | Channel 4132 | Channel 4183 | Channel 4233 |
| **Sub - Test 1** | Before Test (dBm) | 20.37 | 20.12 | 20.28 |
| | After Test (dBm) | 20.36 | 20.13 | 20.27 |
| **Sub - Test 2** | Before Test (dBm) | 19.38 | 19.07 | 18.18 |
| | After Test (dBm) | 19.36 | 19.06 | 18.16 |
| **Sub - Test 3** | Before Test (dBm) | 19.63 | 19.02 | 19.27 |
| | After Test (dBm) | 19.64 | 19.01 | 19.26 |
| **Sub - Test 4** | Before Test (dBm) | 19.77 | 19.09 | 18.87 |
| | After Test (dBm) | 19.76 | 19.07 | 18.86 |
| **Sub - Test 5** | Before Test (dBm) | 20.40 | 20.11 | 20.27 |
| | After Test (dBm) | 20.41 | 20.12 | 20.26 |

SAR tests for HSUPA mode have not been performed, because no HSUPA Sub-test mode has an average power > 1/4dB above the basic WCDMA 12.2kbps RMC mode, and the maximum SAR in 12.2kbps RMC mode is not above 75% of the SAR limit (see table 13 and 15 for the SAR measurement results).

Note: The device utilizes a non-standard MPR implementation for HSPA maximum output power which defined by the manufacturer, please see detail explanation in a separate documentation from manufacturer.

# 7. Test Results

## 7.1. Dielectric Performance

**Table 7: Dielectric Performance of Body Tissue Simulating Liquid**

| Frequency | Description | Dielectric Parameters | | Temp ℃ |
|---|---|---|---|---|
| | | $\varepsilon_r$ | σ(s/m) | |
| **835MHz (body)** | Target value ±5% window | 55.20 52.44 — 57.96 | 0.97 0.92 — 1.02 | / |
| | Measurement value 2009-7-23 | 55.07 | 1.02 | 21.5 |
| **1900MHz (body)** | Target value ±5% window | 53.30 50.64 — 55.97 | 1.52 1.44 — 1.60 | / |
| | Measurement value 2009-7-24 | 52.65 | 1.53 | 21.7 |

## 7.2. System check

**Table 8: System check**

| Frequency | Description | SAR(W/kg) | | Dielectric Parameters | | Temp |
|---|---|---|---|---|---|---|
| | | 10g | 1g | $\varepsilon_r$ | σ(s/m) | ℃ |
| **835MHz** | Recommended result ±10% window | 1.58 1.42—1.74 | 2.41 2.17 — 2.65 | 54.60 | 0.99 | / |
| | Measurement value 2009-7-23 | 1.58 | 2.40 | 55.07 | 1.02 | 21.9 |
| **1900 MHz** | Recommended result ±10% window | 5.18 4.66—5.70 | 10.20 9.18 — 11.22 | 52.90 | 1.55 | / |
| | Measurement value 2009-7-24 | 5.14 | 10.0 | 52.65 | 1.53 | 21.7 |

Note：1. The graph results see ANNEX B.

2. Target Values used derive from the calibration certificate and 250 mW is used as feeding power to the Calibrated dipole.

## 7.3. Summary of Measurement Results

### 7.3.1. GSM 850(GPRS/EGPRS)

**Table 9: SAR Values [GSM850 (GPRS/EGPRS)]**

| Limit of SAR (W/kg) | | | | 10 g Average | 1g Average | Power Drift(dB) | Graph Results |
|---|---|---|---|---|---|---|---|
| | | | | 2.0 | 1.6 | ± 0.21 | |
| Test Case Of Body | | | | Measurement Result (W/kg) | | Power Drift(dB) | |
| Different Test Position | Different Timeslots | Angle （degree） | Channel | 10 g Average | 1 g Average | | |
| BenQ Joybook R55V | | | | | | | |
| Test Position 1 | 2 timeslots | 180 | High | 0.571 | 0.857 | -0.033 | Figure 11 |
| | | | Middle | 0.628 | 0.940 | -0.104 | Figure 13 |
| | | | Low | 0.690 | 1.040 | -0.014 | Figure 15 |
| | | 90 | Low | 0.696 | 1.060 | 0.028 | Figure 17 |
| Test Position 2 | 2 timeslots | 180 | High | 0.502 | 0.808 | 0.016 | Figure 19 |
| | | | Middle | 0.608 | 0.939 | -0.017 | Figure 21 |
| | | | Low | 0.628 | 1.010 | 0.055 | Figure 23 |
| | 1 timeslot | | Middle | 0.391 | 0.600 | 0.094 | Figure 25 |
| | 2 timeslots | 270 | Low | 0.675 | **1.070** | 0.033 | Figure 27 |
| Test Position 3 | 2 timeslots | 180 | Middle | 0.200 | 0.528 | 0.131 | Figure 29 |
| IBM T61 | | | | | | | |
| Test Position 4 | 2 timeslots | 180 | Middle | 0.471 | 0.764 | 0.087 | Figure 31 |
| Test Position 5 | 2 timeslots | | Middle | 0.426 | 0.651 | -0.133 | Figure 33 |
| Worst case position of GPRS with EGPRS | | | | | | | |
| Test Position 2 | 4 timeslots | 270 | Low | 0.352 | 0.553 | 0.002 | Figure35 |
| | 3 timeslots | | Low | 0.440 | 0.688 | -0.160 | Figure 37 |
| | 2 timeslots | | Low | 0.682 | 1.080 | -0.023 | Figure 39 |
| | 1 timeslot | | Low | 0.574 | 0.907 | -0.014 | Figure 41 |

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB (< 0.8W/kg) lower than the SAR limit, testing at the high and low channels is optional.

3. Upper and lower frequencies were measured at the worst case.

**Table 10: SAR Values (GSM850, enhanced energy coupling at increased separation distances)**

| Different Test Position | Distance of EUT to Phantom | Channel | Measurement Result (W/kg) | 50% of initial position SAR (W/kg) | 125% of initial position SAR (W/kg) |
|---|---|---|---|---|---|
| Test Position 2 | initial position | Low | 1.308 | 0.654 | 1.635 |
| | 5mm | | 0.610 | | |

Note: 1. The probe tip location is fixed at the distance of one half the probe tip diameter from the phantom surface.

2. when the device position with the highest point SAR is > 25% of that measured at the initial position, a complete 1-g SAR evaluation is required for this configuration.

3. A single point SAR is measured for each of these device positions until the SAR is less than 50% of that measured at the initial position.

### 7.3.2. GSM 1900(GPRS/EGPRS)

**Table 11: SAR Values [GSM1900 (GPRS/EGPRS)]**

| Limit of SAR (W/kg) | | | | 10 g Average | 1g Average | Power Drift(dB) | Graph Results |
|---|---|---|---|---|---|---|---|
| | | | | 2.0 | 1.6 | ± 0.21 | |
| Test Case Of Body | | | | Measurement Result (W/kg) | | Power Drift(dB) | |
| Different Test Position | Different Timeslots | Angle （degree） | Channel | 10 g Average | 1 g Average | | |
| BenQ Joybook R55V | | | | | | | |
| Test Position 1 | 2 timeslots | 180 | High | 0.556(Max) | 0.958(Max) | 0.025 | Figure 43 |
| | | | Middle | 0.559(Max) | 0.954(Max) | 0.062 | Figure 45 |
| | | | Low | 0.546(Max) | 0.934(Max) | 0.049 | Figure 47 |
| | | 90 | High | 564(Max) | 0.942(Max) | -0.077 | Figure 49 |
| Test Position 2 | 2 timeslots | 180 | High | 0.511 | 0.914 | 0.084 | Figure 51 |
| | | | Middle | 0.557 | 1.000 | -0.079 | Figure 53 |
| | | | Low | 0.514 | 0.896 | -0.017 | Figure 55 |
| | 1 timeslot | | Middle | 0.442 | 0.776 | -0.080 | Figure 57 |
| | 2 timeslots | 270 | Middle | 0.658(Max) | 1.040(Max) | -0.053 | Figure 59 |
| Test Position 3 | 2 timeslots | 180 | Middle | 0.168 | 0.311 | -0.077 | Figure 61 |
| IBM T61 | | | | | | | |
| Test Position 4 | 2 timeslots | 180 | Middle | 0.332 | 0.567 | -0.100 | Figure 63 |
| Test Position 5 | 2 timeslots | | Middle | 0.321(Max) | 0.533(Max) | 0.143 | Figure 65 |
| Worst case position of GPRS with EGPRS | | | | | | | |
| Test Position 2 | 4 timeslots | 270 | Middle | 0.540 | 0.922 | -0.096 | Figure 67 |
| | 3 timeslots | | Middle | 0.540 | 0.920 | -0.151 | Figure 69 |
| | 2 timeslots | | Middle | 0.535 | 0.889 | 0.068 | Figure 71 |
| | 1 timeslot | | Middle | 0.468 | 0.772 | 0.005 | Figure 73 |

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB (< 0.8W/kg) lower than the SAR limit, testing at the high and low channels is optional.
3. Upper and lower frequencies were measured at the worst case.
4. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

**Table 12: SAR Values (GSM1900, enhanced energy coupling at increased separation distances)**

| Different Test Position | Distance of EUT to Phantom | Channel | Measurement Result (W/kg) | 50% of initial position SAR (W/kg) | 125% of initial position SAR (W/kg) |
|---|---|---|---|---|---|
| Test Position 2 | initial position | Middle | 1.383 | 0.692 | 1.729 |
| | 5mm | | 0.550 | | |

Note: 1. The probe tip location is fixed at the distance of one half the probe tip diameter from the phantom surface.

2. when the device position with the highest point SAR is > 25% of that measured at the initial position, a complete 1-g SAR evaluation is required for this configuration.

3. A single point SAR is measured for each of these device positions until the SAR is less than 50% of that measured at the initial position.

### 7.3.3. WCDMA Band II (WCDMA)

**Table 13: SAR Values [WCDMA Band II (WCDMA)]**

| Limit of SAR (W/kg) | | | 10 g Average | 1g Average | Power Drift(dB) | Graph Results |
|---|---|---|---|---|---|---|
| | | | 2.0 | 1.6 | ± 0.21 | |
| Test Case Of Body | | | Measurement Result (W/kg) | | Power Drift(dB) | |
| Different Test Position | Angle （degree） | Channel | 10 g Average | 1 g Average | | |
| BenQ Joybook R55V | | | | | | |
| Test Position 1 | 180 | High | 0.603(Max) | 1.040(Max) | -0.067 | Figure 75 |
| | | Middle | 0.629(Max) | 1.080(Max) | -0.003 | Figure 77 |
| | | Low | 0.569(Max) | 0.972(Max) | 0.138 | Figure 79 |
| | 90 | Middle | 0.682(Max) | 1.140(Max) | 0.169 | Figure 81 |
| Test Position 2 | 180 | High | 0.505 | 0.876 | -0.039 | Figure 83 |
| | | Middle | 0.607 | 1.070 | -0.029 | Figure 85 |
| | | Low | 0.481 | 0.824 | 0.021 | Figure 87 |
| | 270 | Middle | 0.700(Max) | 1.170(Max) | -0.050 | Figure 89 |
| Test Position 3 | 180 | Middle | 0.231 | 0.447 | 0.028 | Figure 91 |
| IBM T61 | | | | | | |
| Test Position 4 | 180 | Middle | 0.369 | 0.630 | -0.067 | Figure 93 |
| Test Position 5 | | Middle | 0.390(Max) | 0.665(Max) | 0.032 | Figure 95 |

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB (< 0.8W/kg) lower than the SAR limit, testing at the high and low channels is optional.
3. Upper and lower frequencies were measured at the worst case.
4. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

**Table 14: SAR Values (WCDMA Band II, enhanced energy coupling at increased separation distances)**

| Different Test Position | Distance of EUT to Phantom | Channel | Measurement Result (W/kg) | 50% of initial position SAR (W/kg) | 125% of initial position SAR (W/kg) |
|---|---|---|---|---|---|
| Test Position 2 | initial position | Middle | 1.504 | 0.752 | 1.880 |
| | 5mm | | 0.652 | | |

Note: 1. The probe tip location is fixed at the distance of one half the probe tip diameter from the phantom surface.

2. when the device position with the highest point SAR is > 25% of that measured at the initial position, a complete 1-g SAR evaluation is required for this configuration.

3. A single point SAR is measured for each of these device positions until the SAR is less than 50% of that measured at the initial position.

### 7.3.4. WCDMA Band V (WCDMA)

**Table 15: SAR Values [WCDMA Band V (WCDMA)]**

| Limit of SAR (W/kg) | | | 10 g Average | 1g Average | Power Drift(dB) | Graph Results |
|---|---|---|---|---|---|---|
| | | | 2.0 | 1.6 | ± 0.21 | |
| Test Case Of Body | | | Measurement Result (W/kg) | | Power Drift(dB) | |
| Different Test Position | Angle （degree） | Channel | 10 g Average | 1 g Average | | |
| BenQ Joybook R55V | | | | | | |
| Test Position 1 | 180 | High | 0.346 | 0.522 | 0.146 | Figure 97 |
| | | Middle | 0.378 | 0.573 | 0.073 | Figure 99 |
| | | Low | 0.361 | 0.546 | 0.118 | Figure 101 |
| | 90 | Middle | 0.423 | 0.637 | -0.156 | Figure 103 |
| Test Position 2 | 180 | Middle | 0.323 | 0.506 | 0.181 | Figure 105 |
| | 270 | Middle | 0.508 | 0.805 | 0.073 | Figure 107 |
| Test Position 3 | 180 | Middle | 0.140 | 0.369 | -0.034 | Figure 109 |
| IBM T61 | | | | | | |
| Test Position 4 | 180 | Middle | 0.298 | 0.453 | 0.047 | Figure 111 |
| Test Position 5 | | Middle | 0.221 | 0.326 | -0.034 | Figure 113 |

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB (< 0.8W/kg) lower than the SAR limit, testing at the high and low channels is optional.
3. Upper and lower frequencies were measured at the worst case.

**Table 16: SAR Values (WCDMA Band V, enhanced energy coupling at increased separation distances)**

| Different Test Position | Distance of EUT to Phantom | Channel | Measurement Result (W/kg) | 50% of initial position SAR (W/kg) | 125% of initial position SAR (W/kg) |
|---|---|---|---|---|---|
| Test Position 2 | initial position | Middle | 1.005 | 0.503 | 1.256 |
| | 5mm | | 0.461 | | |

Note: 1. The probe tip location is fixed at the distance of one half the probe tip diameter from the phantom surface.
2. when the device position with the highest point SAR is > 25% of that measured at the initial position, a complete 1-g SAR evaluation is required for this configuration.
3. A single point SAR is measured for each of these device positions until the SAR is less than 50% of that measured at the initial position.

## 7.4. Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 5.2 of this report. Maximum localized $SAR_{1g}$ is 1.17 W/kg that is below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report.

# 8. Measurement Uncertainty

| No. | source | Type | Uncertainty Value (%) | Probability Distribution | k | $c_i$ | Standard ncertainty $u_i'$ (%) | Degree of freedom $V_{eff}$ or $v_i$ |
|---|---|---|---|---|---|---|---|---|
| 1 | System repetivity | A | 0.5 | N | 1 | 1 | 0.5 | 9 |
| Measurement system | | | | | | | | |
| 2 | probe calibration | B | 5.9 | N | 1 | 1 | 5.9 | ∞ |
| 3 | axial isotropy of the probe | B | 4.7 | R | $\sqrt{3}$ | $\sqrt{0.5}$ | 1.9 | ∞ |
| 4 | Hemispherical isotropy of the probe | B | 9.4 | R | $\sqrt{3}$ | $\sqrt{0.5}$ | 3.9 | ∞ |
| 6 | boundary effect | B | 1.9 | R | $\sqrt{3}$ | 1 | 1.1 | ∞ |
| 7 | probe linearity | B | 4.7 | R | $\sqrt{3}$ | 1 | 2.7 | ∞ |
| 8 | System detection limits | B | 1.0 | R | $\sqrt{3}$ | 1 | 0.6 | ∞ |
| 9 | readout Electronics | B | 1.0 | N | 1 | 1 | 1.0 | ∞ |
| 10 | response time | B | 0 | R | $\sqrt{3}$ | 1 | 0 | ∞ |
| 11 | integration time | B | 4.32 | R | $\sqrt{3}$ | 1 | 2.5 | ∞ |
| 12 | noise | B | 0 | R | $\sqrt{3}$ | 1 | 0 | ∞ |
| 13 | RF Ambient Conditions | B | 3 | R | $\sqrt{3}$ | 1 | 1.73 | ∞ |
| 14 | Probe Positioner Mechanical Tolerance | B | 0.4 | R | $\sqrt{3}$ | 1 | 0.2 | ∞ |
| 15 | Probe Positioning with respect to Phantom Shell | B | 2.9 | R | $\sqrt{3}$ | 1 | 1.7 | ∞ |
| 16 | Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | B | 3.9 | R | $\sqrt{3}$ | 1 | 2.3 | ∞ |
| Test sample Related | | | | | | | | |
| 17 | -Test Sample Positioning | A | 2.9 | N | 1 | 1 | 2.9 | 5 |
| 18 | -Device Holder Uncertainty | A | 4.1 | N | 1 | 1 | 4.1 | 5 |
| 19 | -Output Power Variation - SAR drift measurement | B | 5.0 | R | $\sqrt{3}$ | 1 | 2.9 | ∞ |
| Physical parameter | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 | -phantom | B | 4.0 | R | $\sqrt{3}$ | 1 | 2.3 | ∞ |
| 21 | -liquid conductivity (deviation from target) | B | 5.0 | R | $\sqrt{3}$ | 0.64 | 1.8 | ∞ |
| 22 | -liquid conductivity (measurement uncertainty) | B | 5.0 | N | 1 | 0.64 | 3.2 | ∞ |
| 23 | -liquid permittivity (deviation from target) | B | 5.0 | R | $\sqrt{3}$ | 0.6 | 1.7 | ∞ |
| 24 | -liquid permittivity (measurement uncertainty ) | B | 5.0 | N | 1 | 0.6 | 3.0 | ∞ |
| Combined standard uncertainty | | $u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ | | | | | 12.0 | |
| Expanded uncertainty (confidence interval of 95 %) | | $u_e = 2u_c$ | | N | | k=2 | 24.0 | |

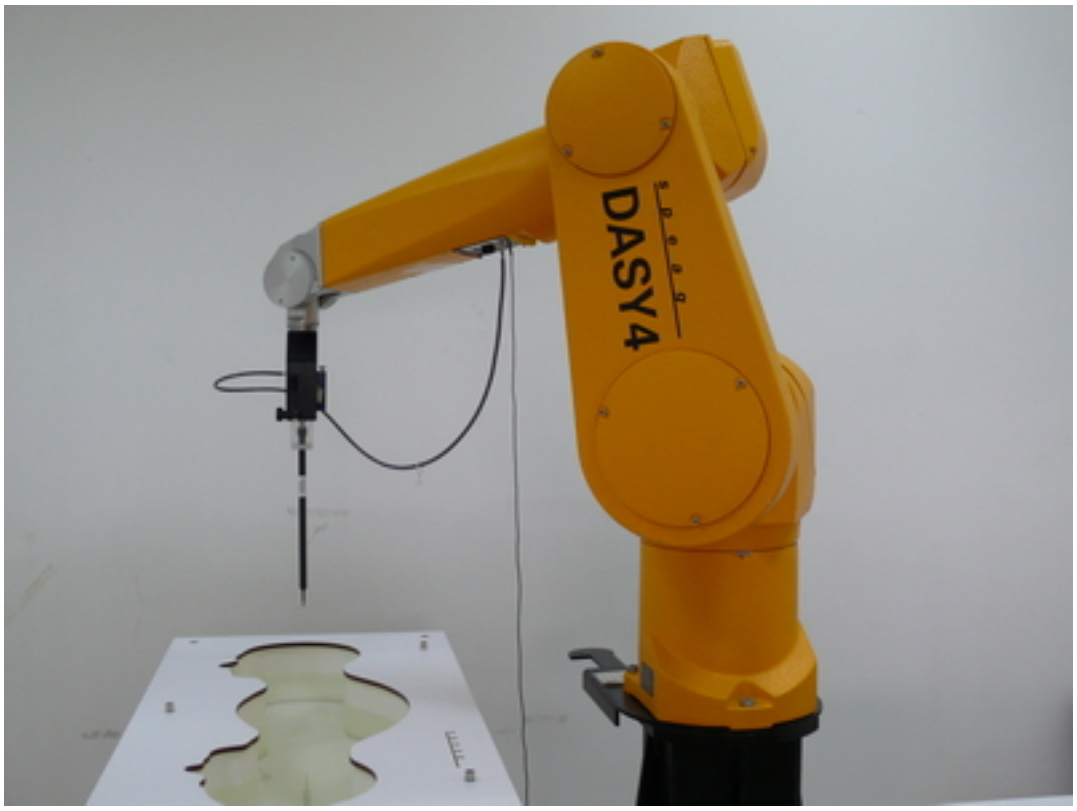
# 9. Main Test Instruments

**Table 17: List of Main Instruments**

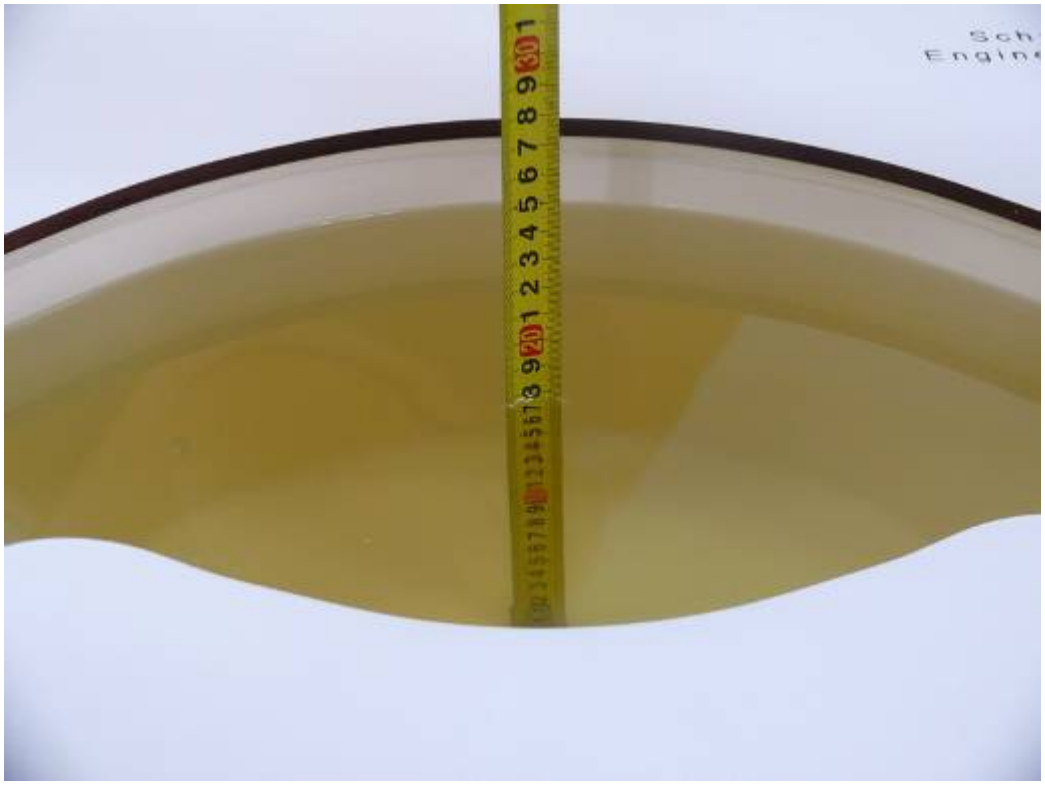
| No. | Name | Type | Serial Number | Calibration Date | Valid Period |
|---|---|---|---|---|---|
| 01 | Network analyzer | Agilent 8753E | US37390326 | September 14, 2008 | One year |
| 02 | Dielectric Probe Kit | Agilent 85070E | US44020115 | No Calibration Requested | |
| 03 | Power meter | Agilent E4417A | GB41291714 | March 14, 2009 | One year |
| 04 | Power sensor | Agilent 8481H | MY41091316 | March 14, 2009 | One year |
| 05 | Signal Generator | HP 8341B | 2730A00804 | September 14, 2008 | One year |
| 06 | Amplifier | IXA-020 | 0401 | No Calibration Requested | |
| 07 | Validation Kit 835MHz | D835V2 | 4d020 | July 15, 2009 | One year |
| 08 | Validation Kit 1900MHz | D1900V2 | 5d060 | July 15, 2009 | One year |
| 09 | BTS | E5515C | GB46490218 | September 14, 2008 | One year |
| 10 | E-field Probe | EX3DV4 | 3660 | September 3, 2008 | One year |
| 11 | DAE | DAE4 | 452 | November 18, 2008 | One year |

*****END OF REPORT BODY*****

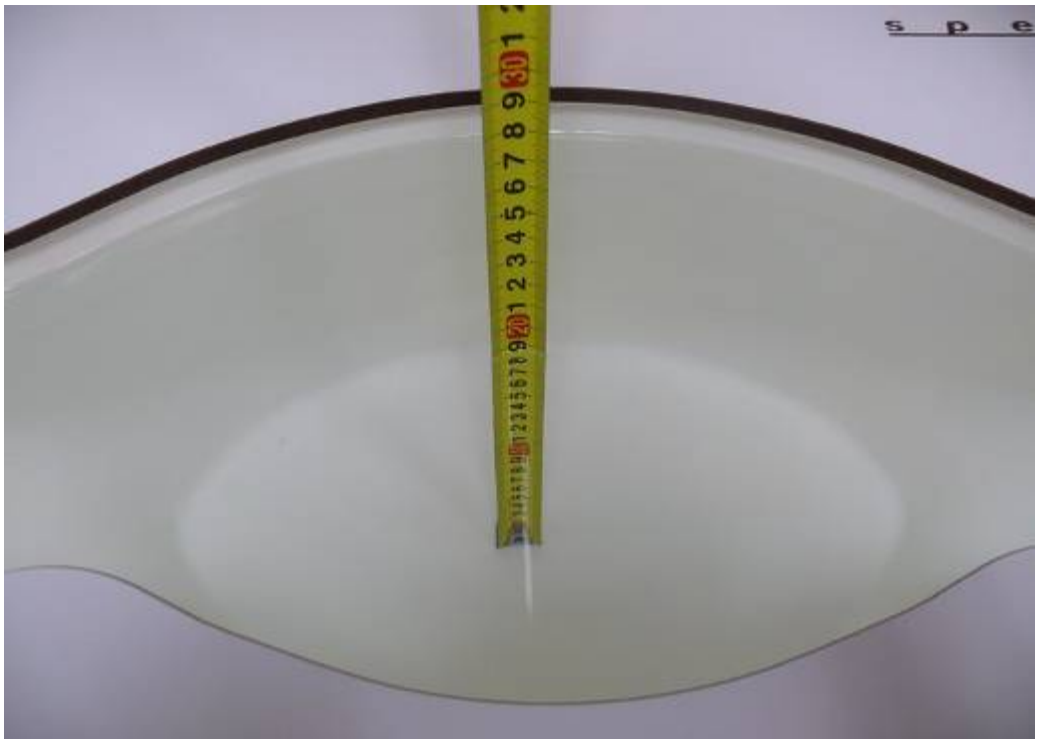
# ANNEX A: Test Layout




**Picture 2: Specific Absorption Rate Test Layout**



**Picture 3: Liquid depth in the Flat Phantom (835 MHz)**



**Picture 4: Liquid depth in the Flat Phantom (1900 MHz)**

# ANNEX B: System Check Results

## System Performance Check at 835 MHz

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d020**

Date/Time: 7/23/2009 11:11 PM

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55.07; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452;

**d=15mm, Pin=250mW/Area Scan (101x121x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.93 mW/g

**d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.7 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 3.59 W/kg

**SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.58 mW/g**

Maximum value of SAR (measured) = 2.92 mW/g

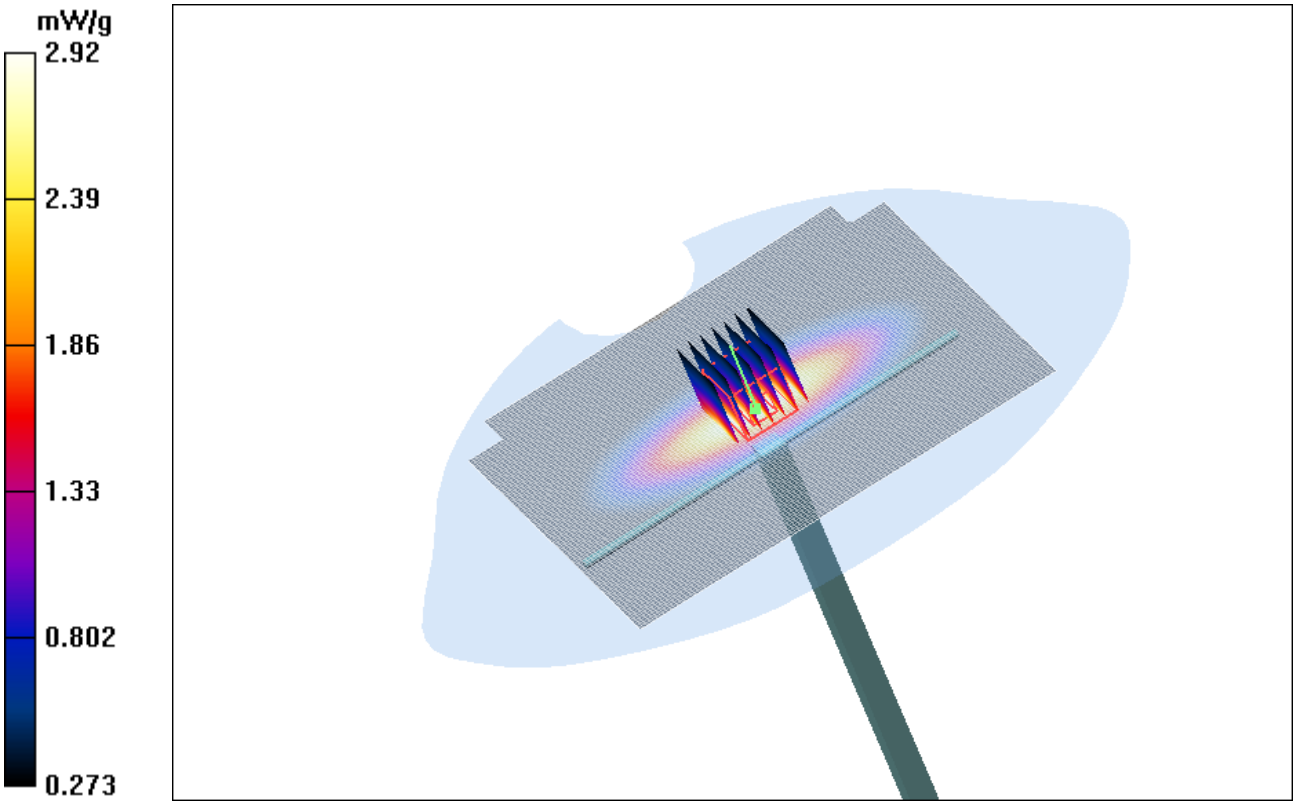



**Figure 7 System Performance Check 835MHz 250mW**

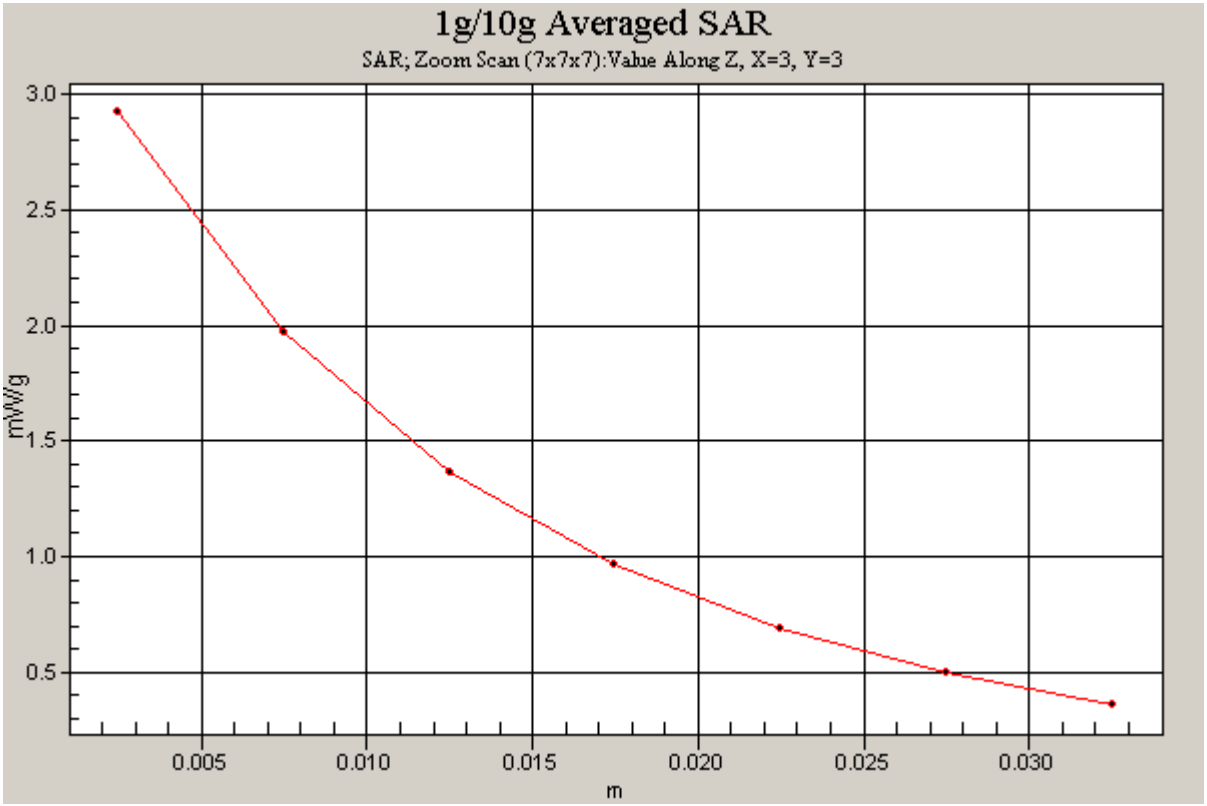



**Figure 8 Z-Scan at power reference point (system Check at 835 MHz dipole)**

## System Performance Check at 1900 MHz

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d060**

Date/Time: 7/25/2009 00:49:18 AM

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.65; $\rho$ = 1000 kg/m$^3$

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008

Electronics: DAE4 Sn452;

**d=10mm, Pin=250mW/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.9 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.0 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 18.9 W/kg

**SAR(1 g) = 10 mW/g; SAR(10 g) = 5.14 mW/g**

Maximum value of SAR (measured) = 11.3 mW/g

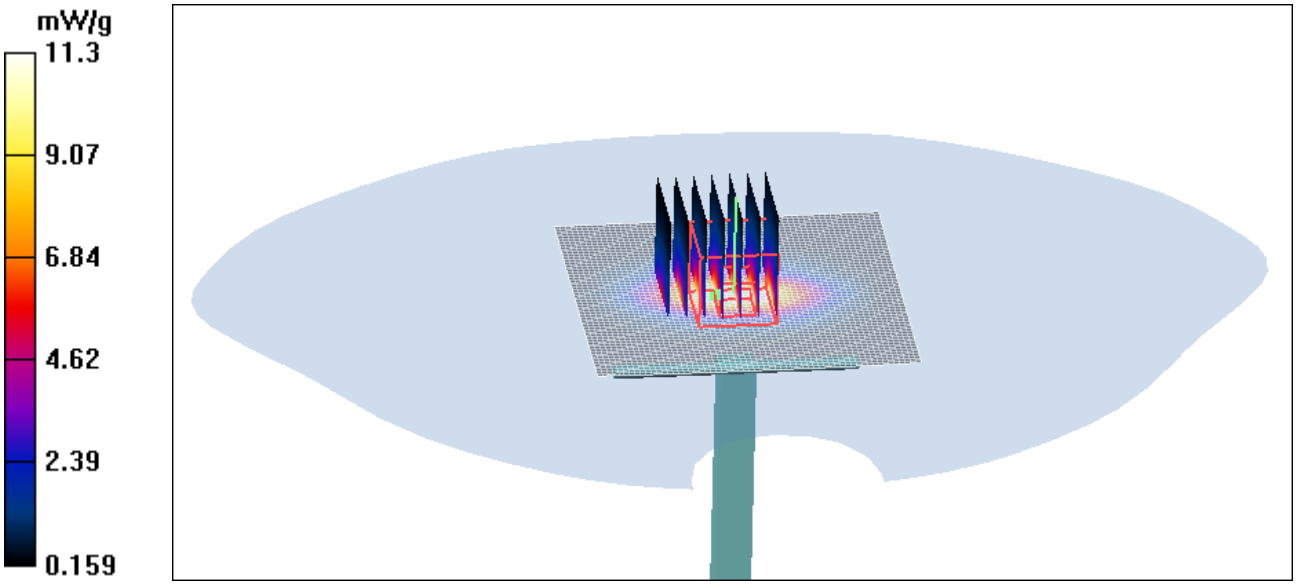



**Figure 9 System Performance Check 1900MHz 250mW**

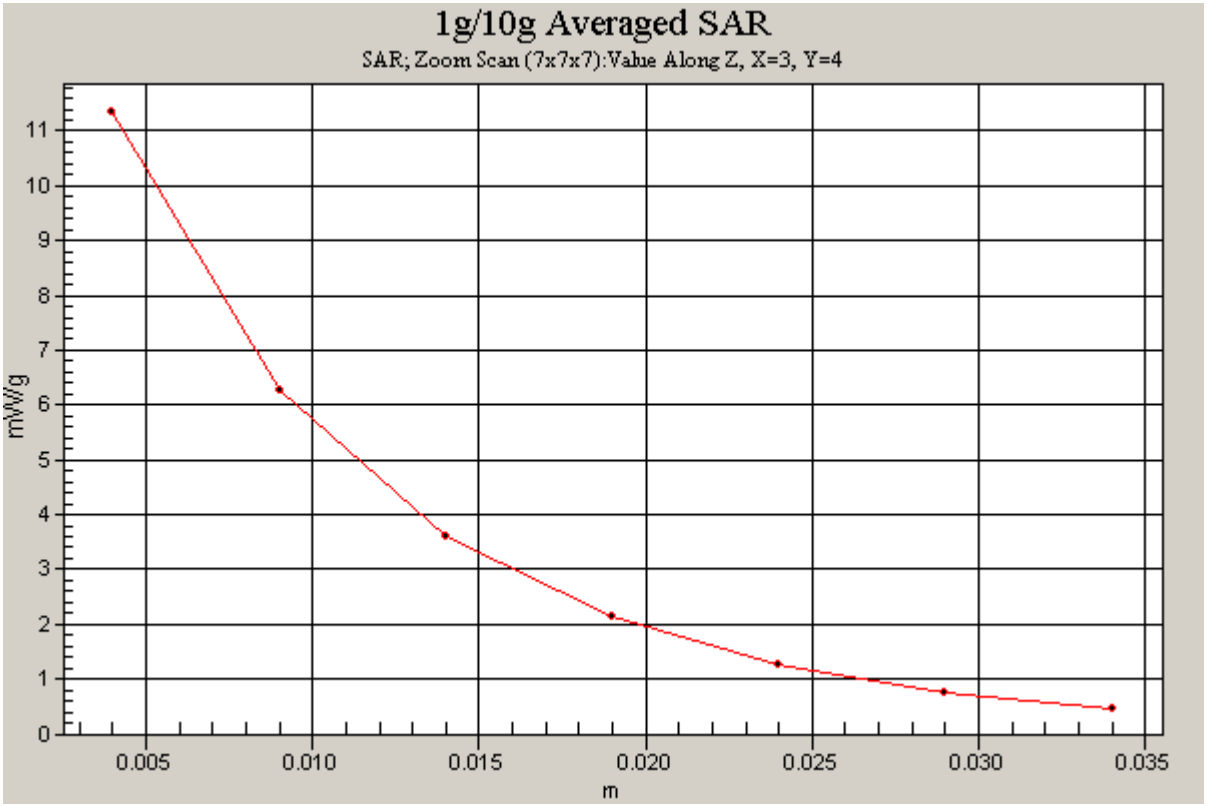



**Figure 10 Z-Scan at power reference point (system Check at 1900 MHz dipole)**

# ANNEX C: Graph Results

## GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 High Frequency

Date/Time: 7/24/2009 10:29:22 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; $\sigma$ = 1.03 mho/m; $\varepsilon_r$ = 54.9; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 1 High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.08 mW/g

**Test Position 1 High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.9 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 1.24 W/kg
**SAR(1 g) = 0.857 mW/g; SAR(10 g) = 0.571 mW/g**
Maximum value of SAR (measured) = 1.02 mW/g

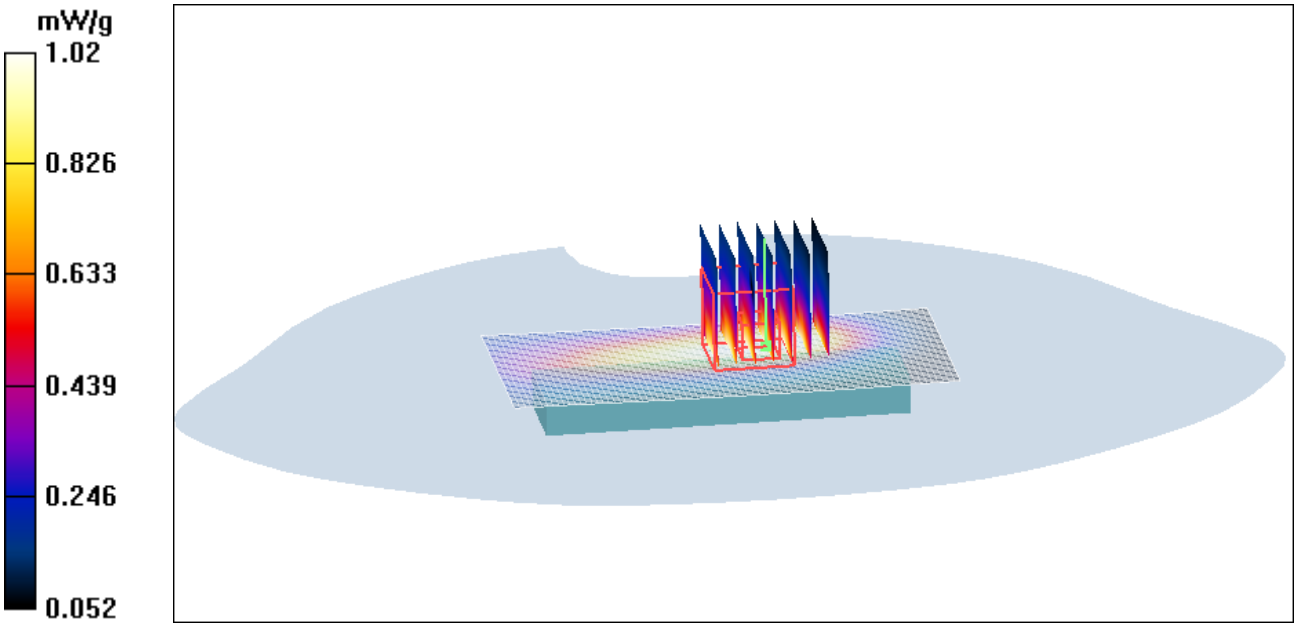



**Figure 11 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 251**

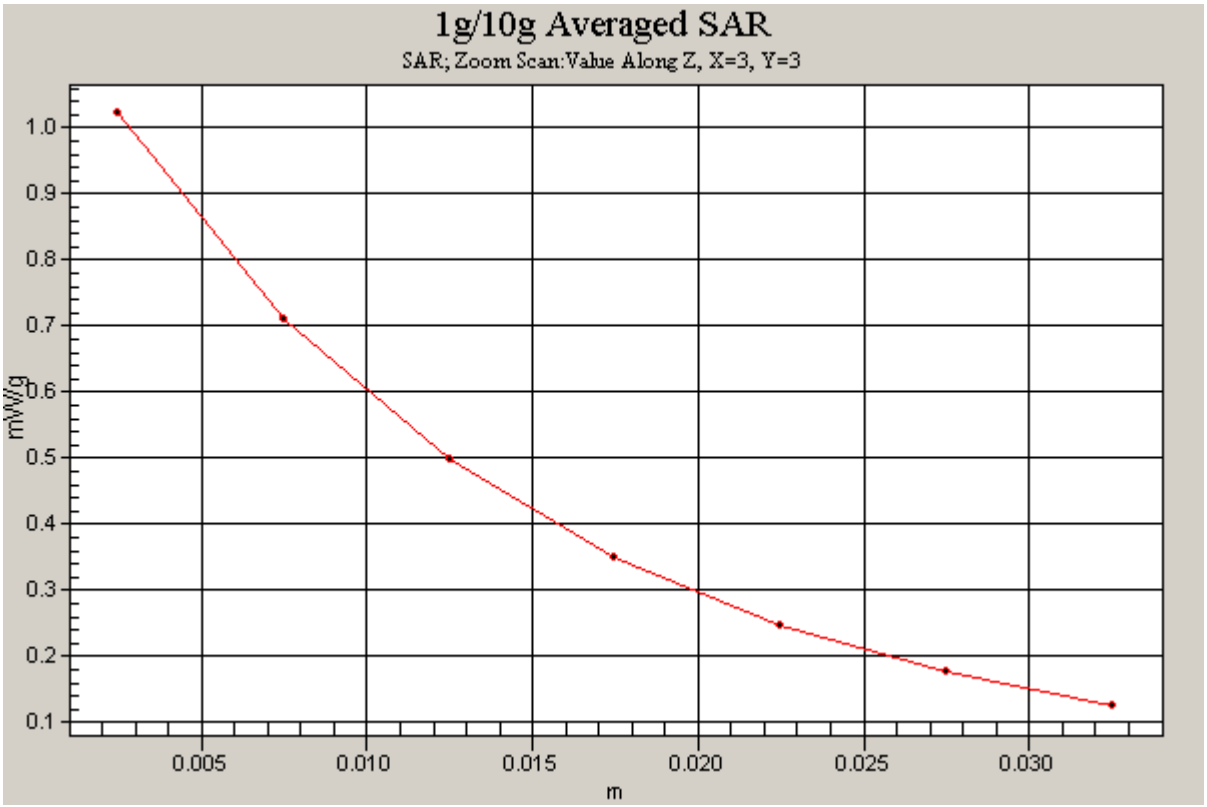



**Figure 12 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 251]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Middle Frequency**

Date/Time: 7/24/2009 9:49:59 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 1 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.20 mW/g

**Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.5 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 1.36 W/kg
**SAR(1 g) = 0.940 mW/g; SAR(10 g) = 0.628 mW/g**
Maximum value of SAR (measured) = 1.12 mW/g

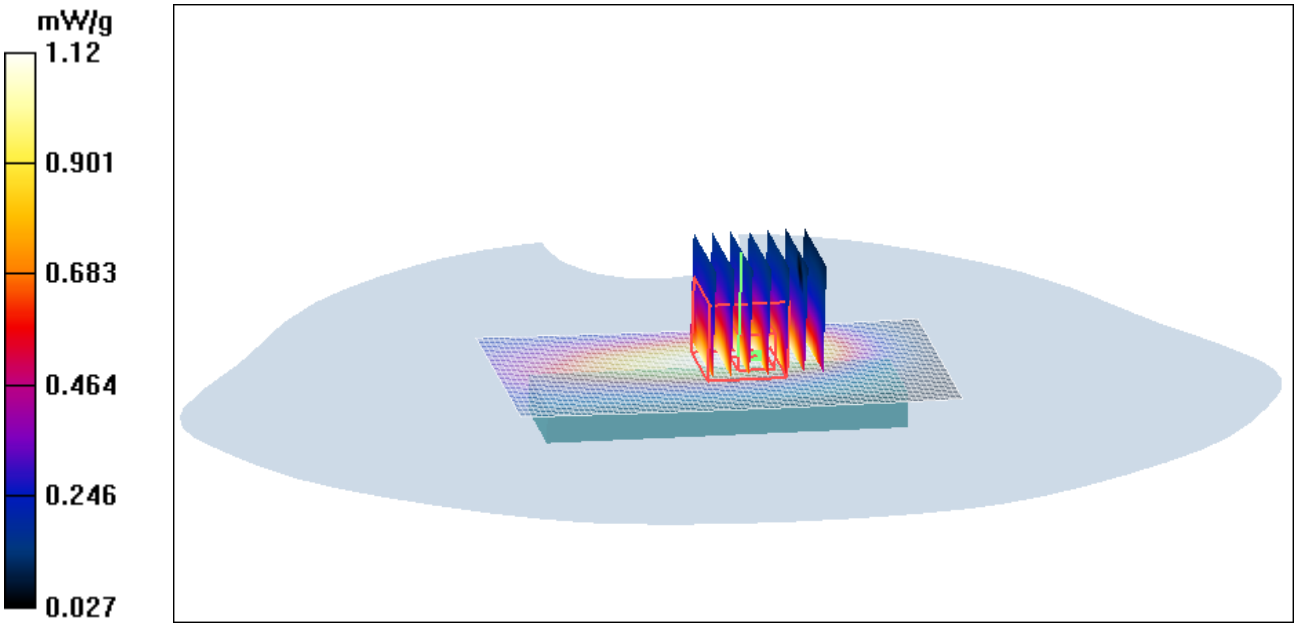



**Figure 13 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 190**

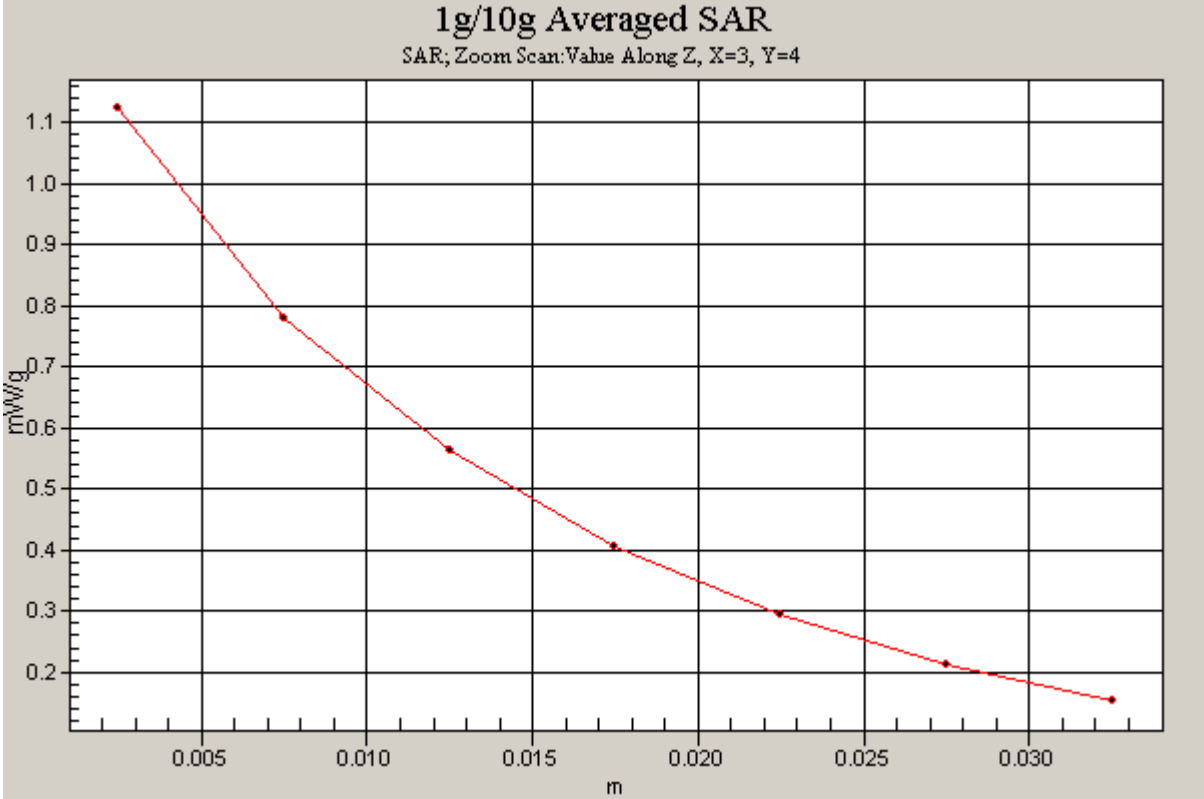



**Figure 14 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 190]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Low Frequency**

Date/Time: 7/24/2009 10:12:58 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 1 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.30 mW/g

**Test Position 1 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.8 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 1.51 W/kg
**SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.690 mW/g**
Maximum value of SAR (measured) = 1.23 mW/g

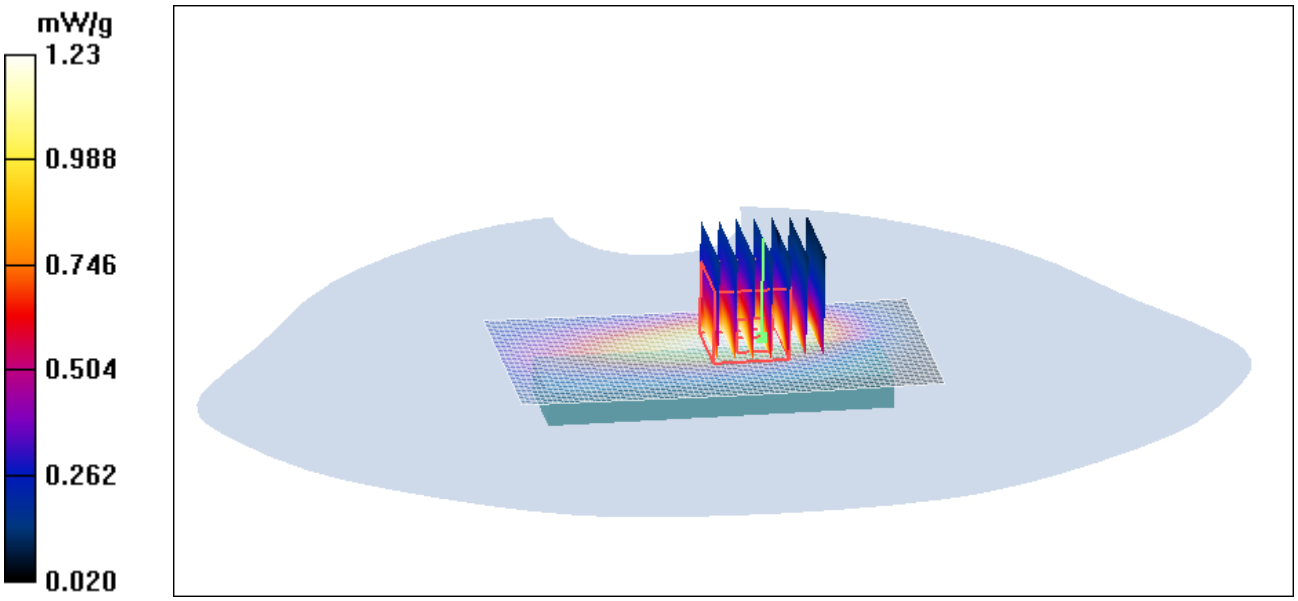



**Figure 15 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 128**

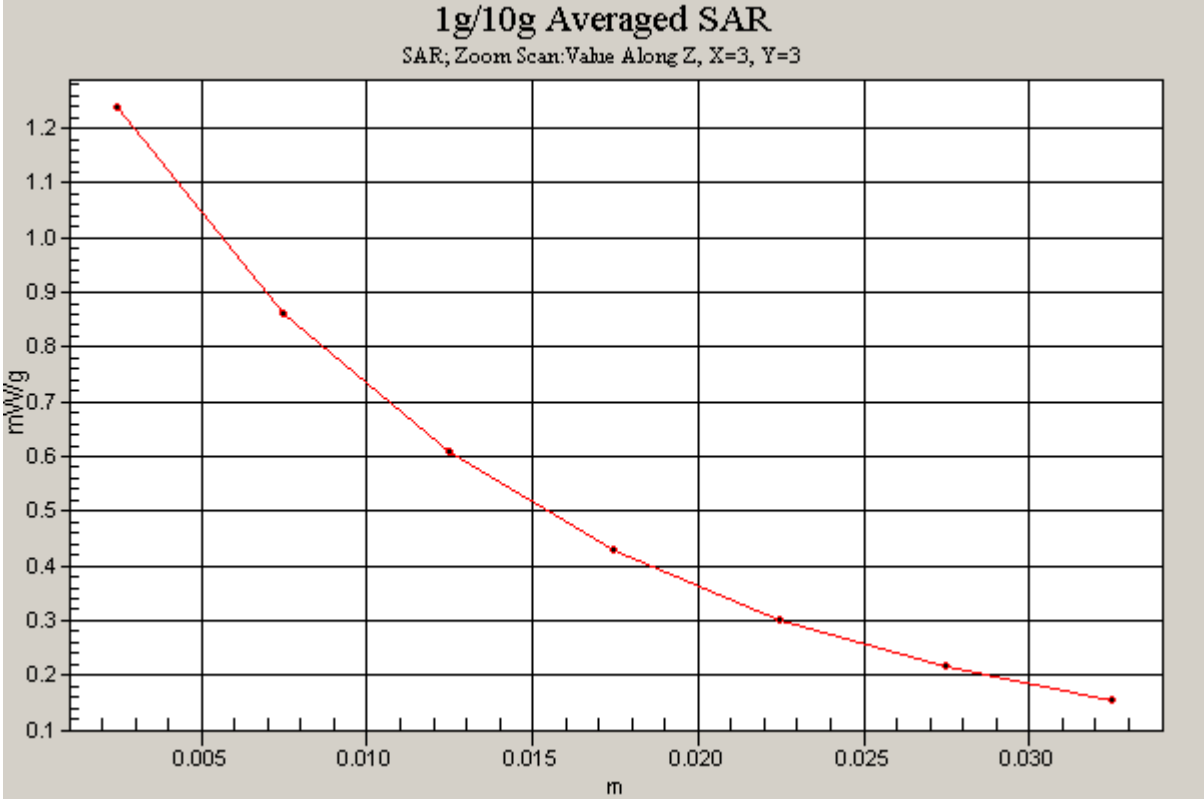



**Figure 16 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 128]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1 Low Frequency**

Date/Time: 7/24/2009 1:35:44 AM
Communication System: GSM850 + GPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 1Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.43 mW/g

**Test Position 1Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.9 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 1.55 W/kg
**SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.696 mW/g**
Maximum value of SAR (measured) = 1.28 mW/g

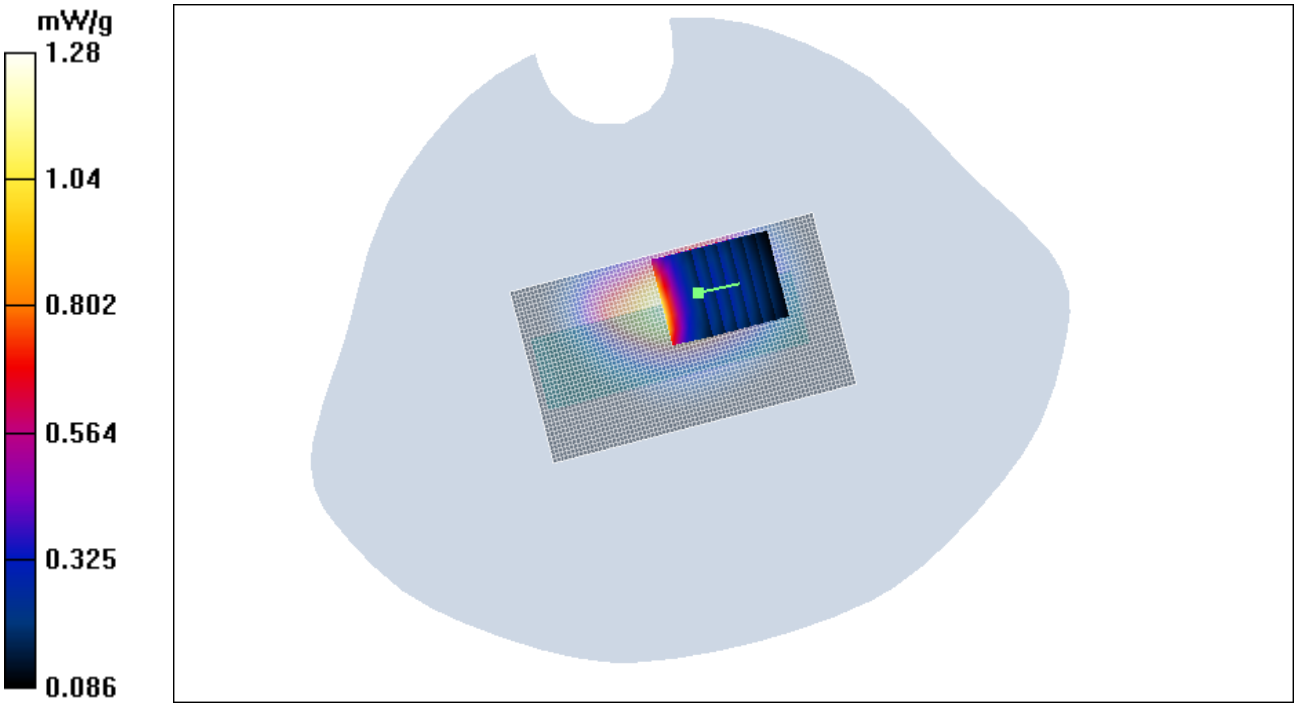



**Figure 17 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1Channel 128**

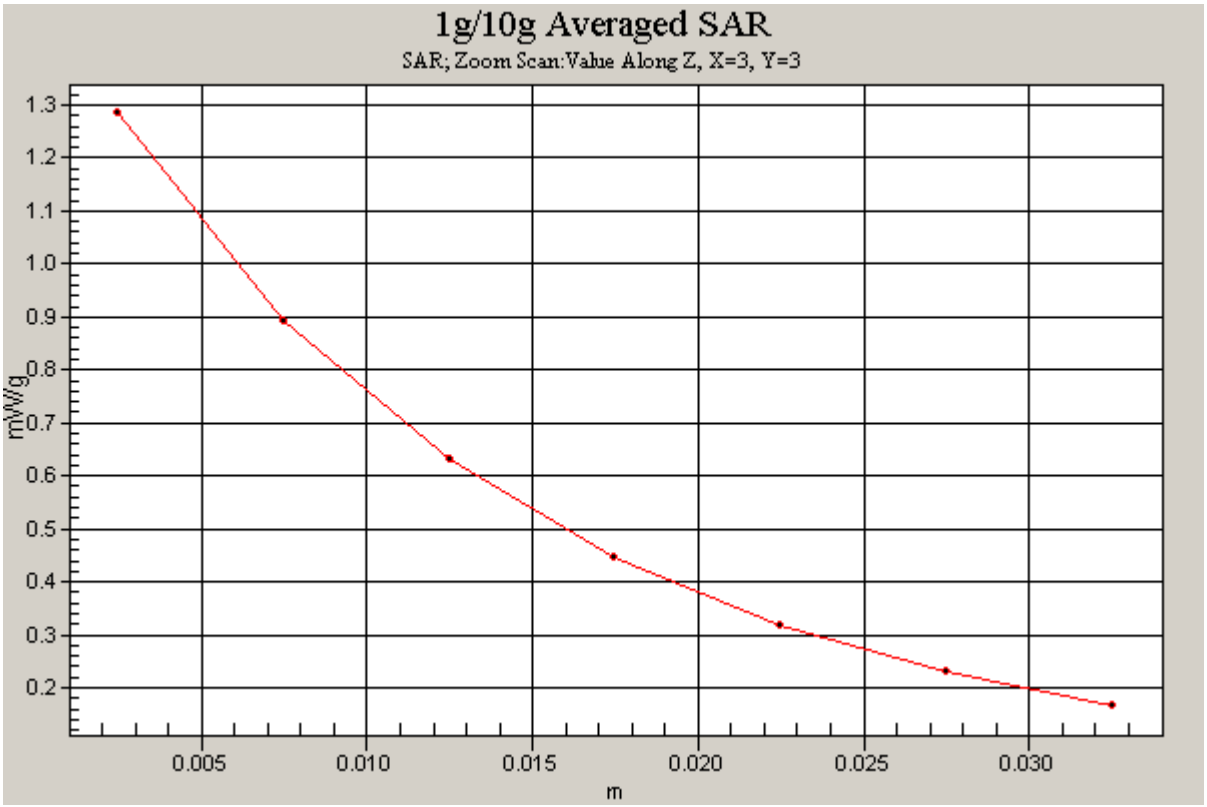



**Figure 18 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1 Channel 128]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 High Frequency**

Date/Time: 7/24/2009 9:09:45 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; $\sigma$ = 1.03 mho/m; $\varepsilon_r$ = 54.9; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.00 mW/g

**Test Position 2High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.9 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 1.44 W/kg
**SAR(1 g) = 0.808 mW/g; SAR(10 g) = 0.502 mW/g**
Maximum value of SAR (measured) = 1.04 mW/g

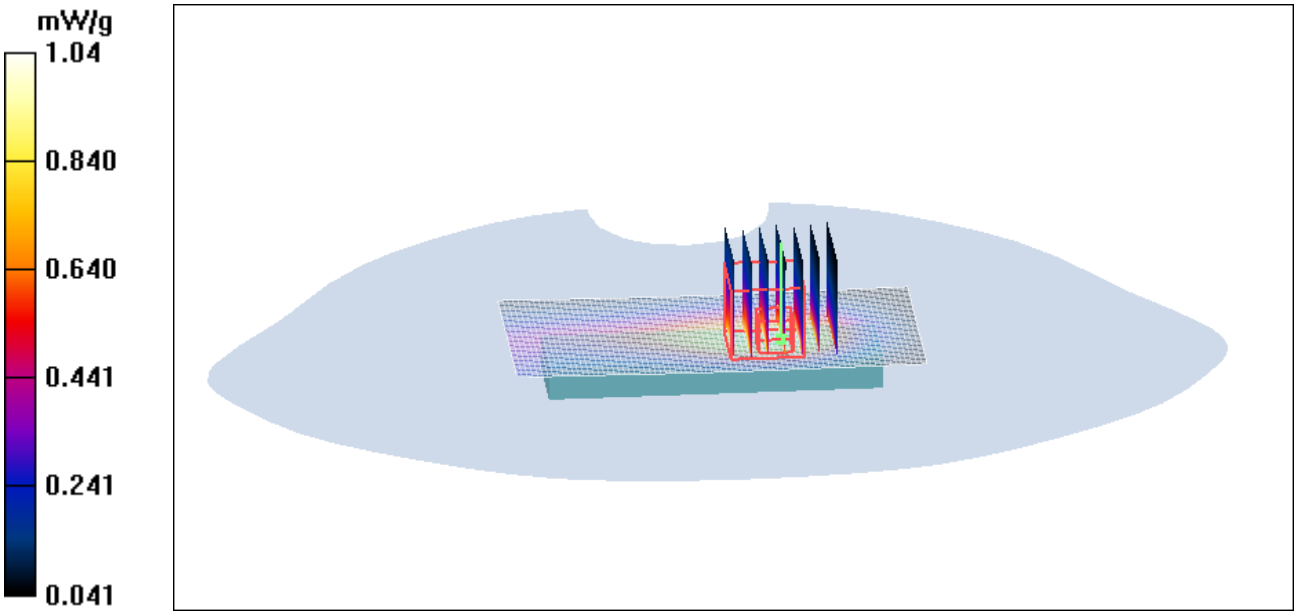



**Figure 19 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2Channel 251**

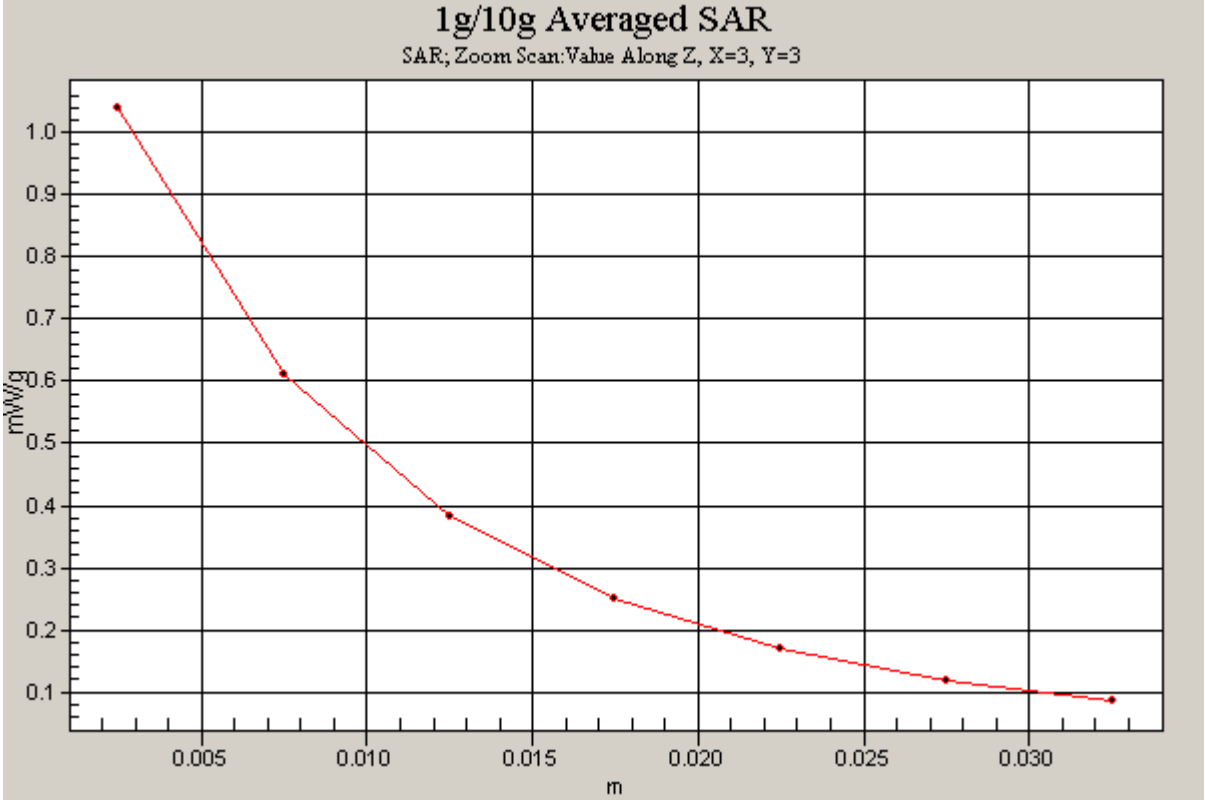



**Figure 20 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 251]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Middle Frequency**

Date/Time: 7/24/2009 10:53:38 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.27 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.9 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 1.59 W/kg
**SAR(1 g) = 0.939 mW/g; SAR(10 g) = 0.608 mW/g**
Maximum value of SAR (measured) = 1.13 mW/g

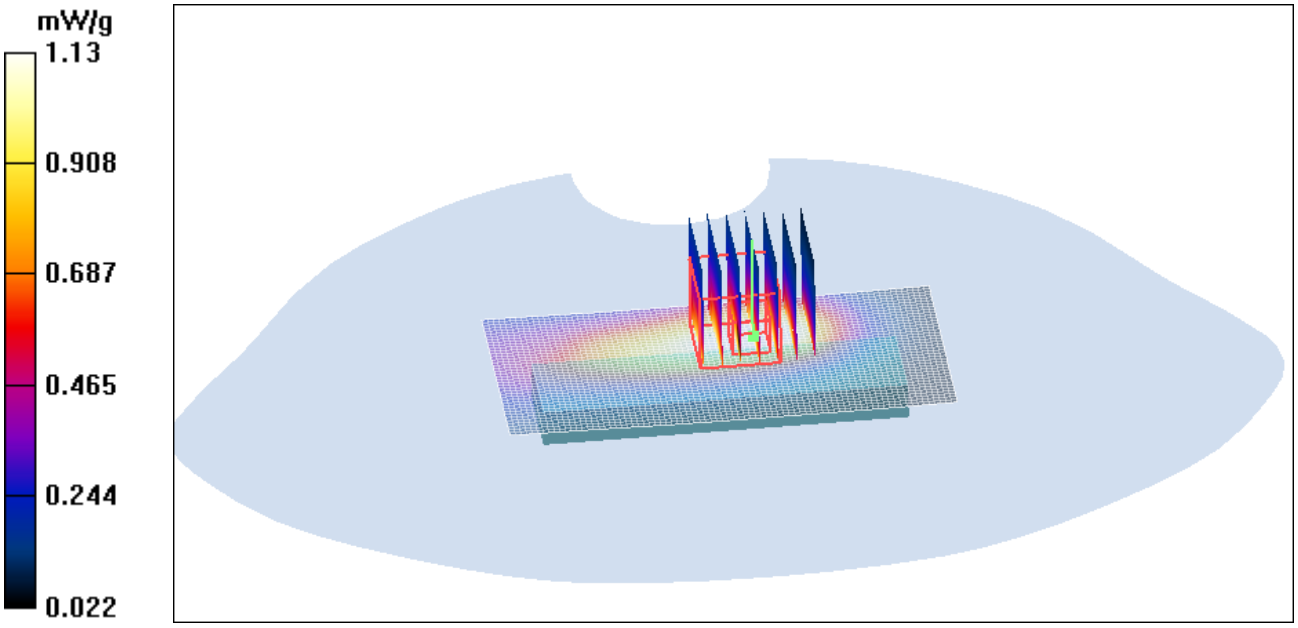



**Figure 21 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2Channel 190**

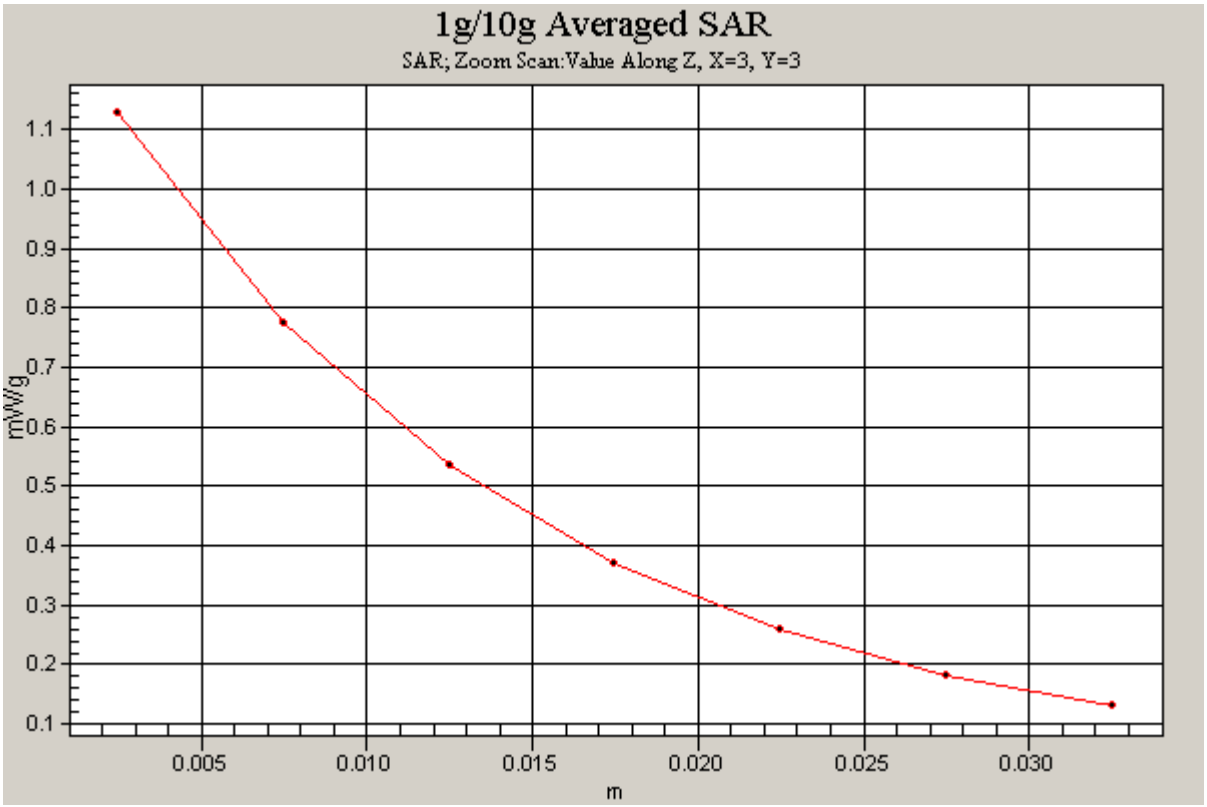



**Figure 22 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 190]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 9:25:50 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 2 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.24 mW/g

**Test Position 2 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.0 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 1.75 W/kg
**SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.628 mW/g**
Maximum value of SAR (measured) = 1.29 mW/g

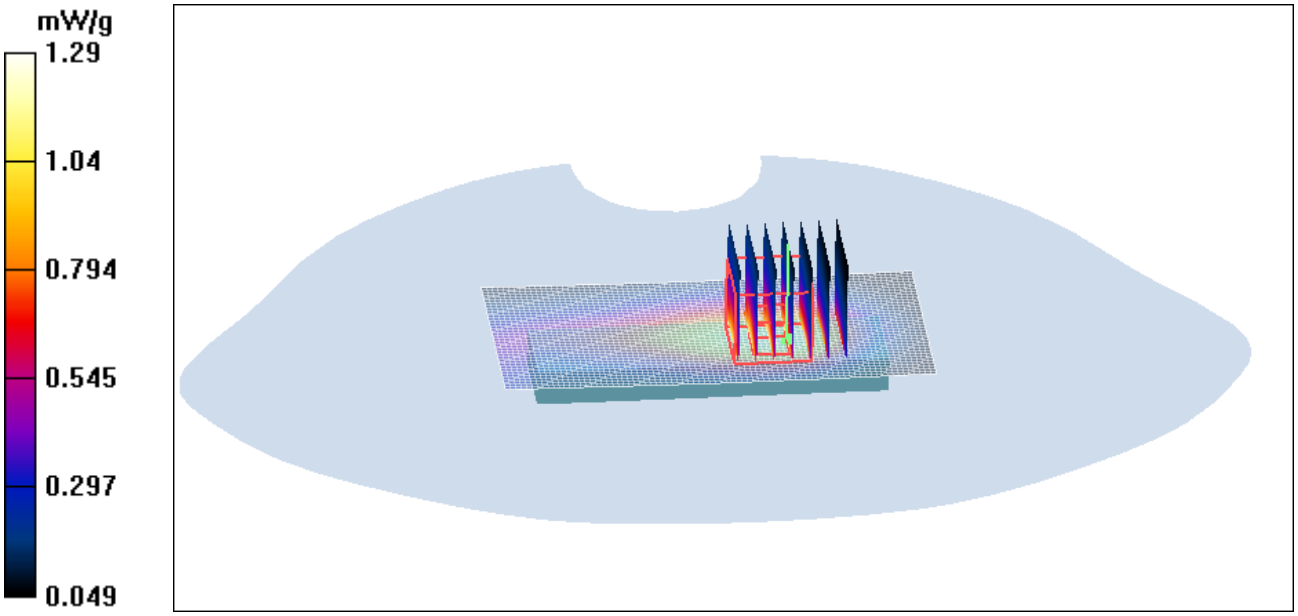



**Figure 23 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2Channel 128**

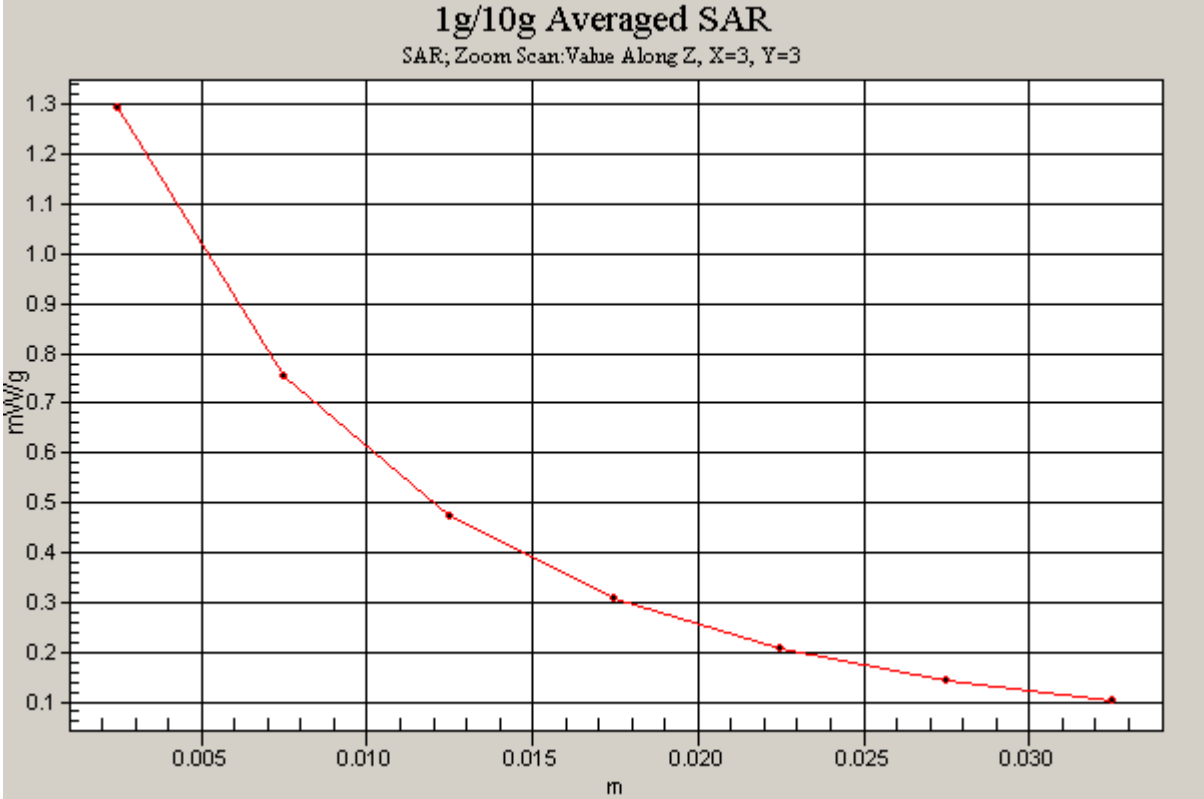



**Figure 24 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 128]**

**GSM 850 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Middle Frequency**

Date/Time: 7/24/2009 1:13:51 AM
Communication System: GSM850 + GPRS(1Up); Frequency: 836.6 MHz;Duty Cycle: 1:8
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.721 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = 0.094 dB
Peak SAR (extrapolated) = 0.961 W/kg
**SAR(1 g) = 0.600 mW/g; SAR(10 g) = 0.391 mW/g**
Maximum value of SAR (measured) = 0.738 mW/g

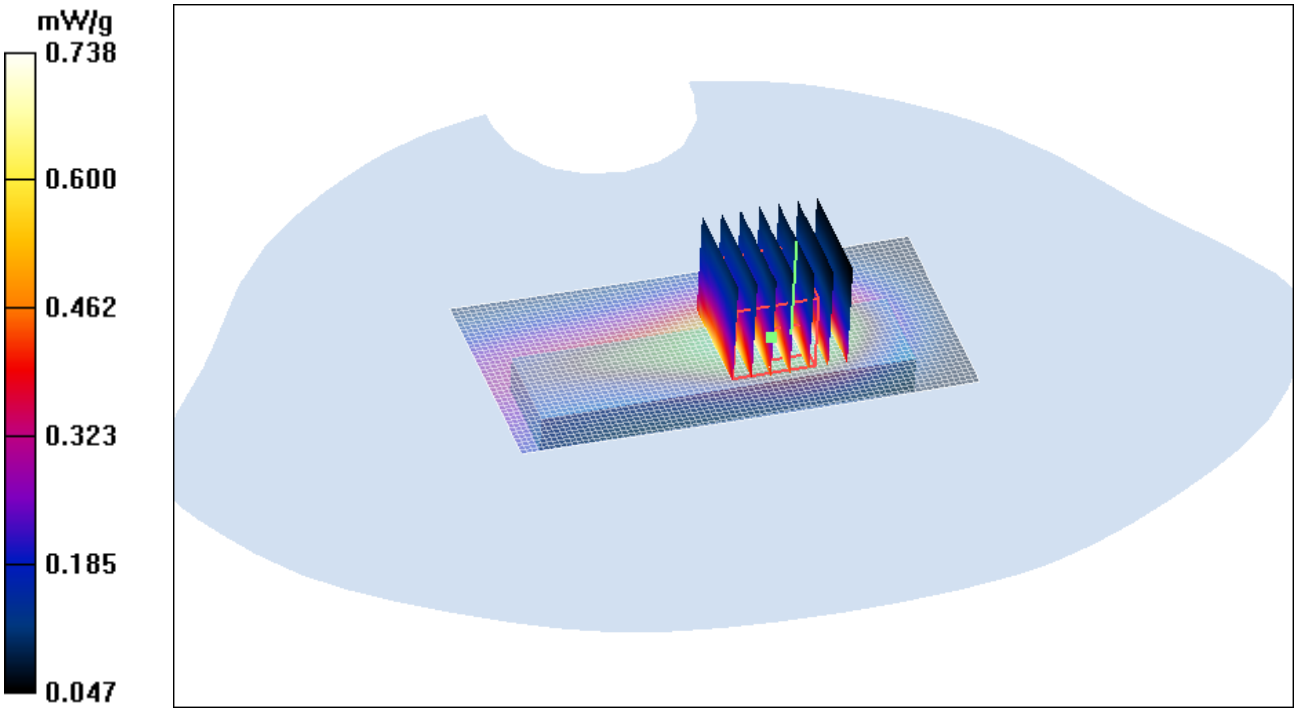



**Figure 25 GSM 850 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2Channel 190**

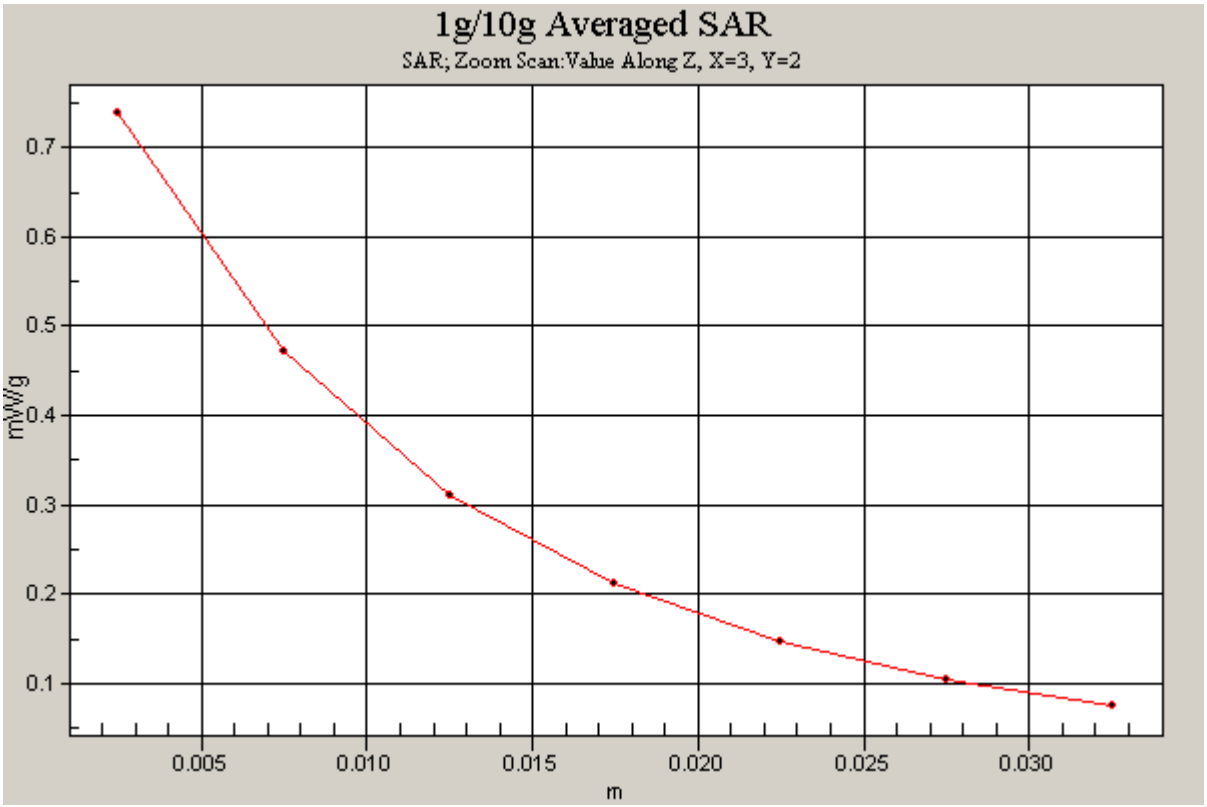



**Figure 26 Z-Scan at power reference point [GSM 850 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 190]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 11:38:54 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.36 mW/g

**Test Position 2Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.9 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 4.54 W/kg
**SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.675 mW/g**
Maximum value of SAR (measured) = 1.33 mW/g

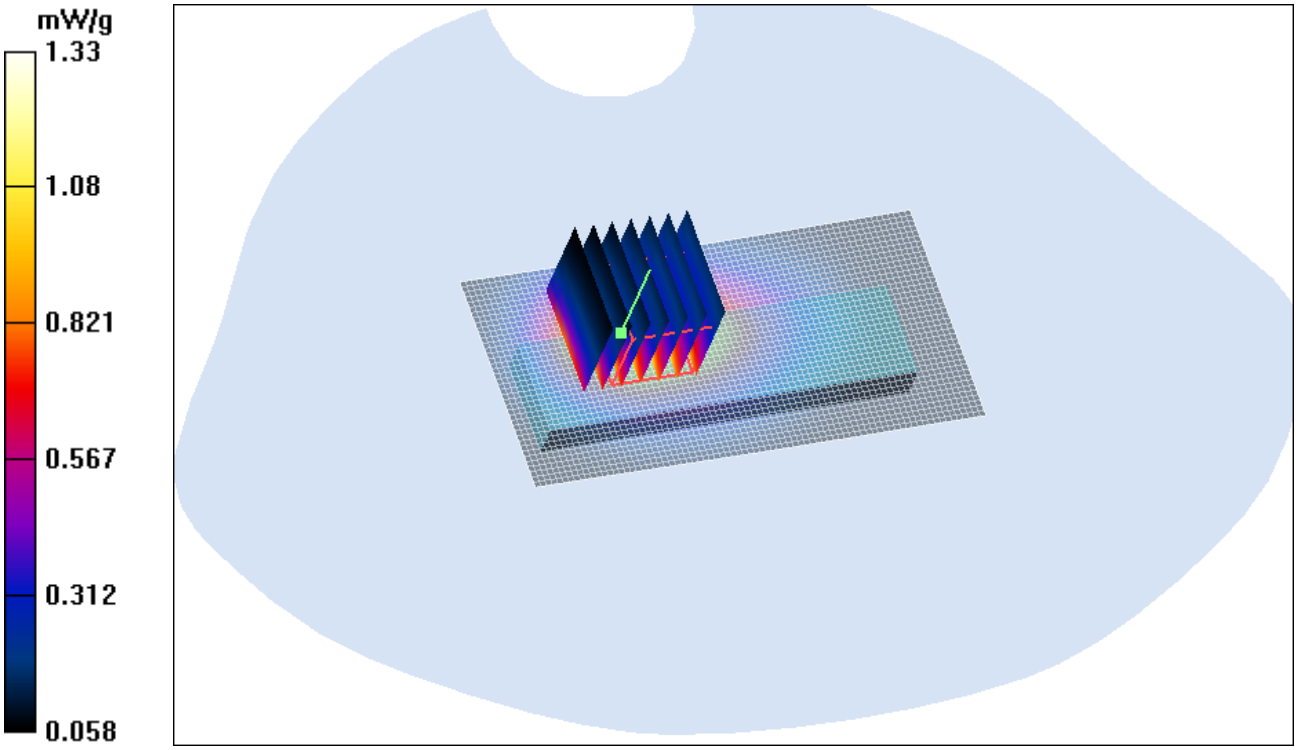



**Figure 27 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2Channel 128**

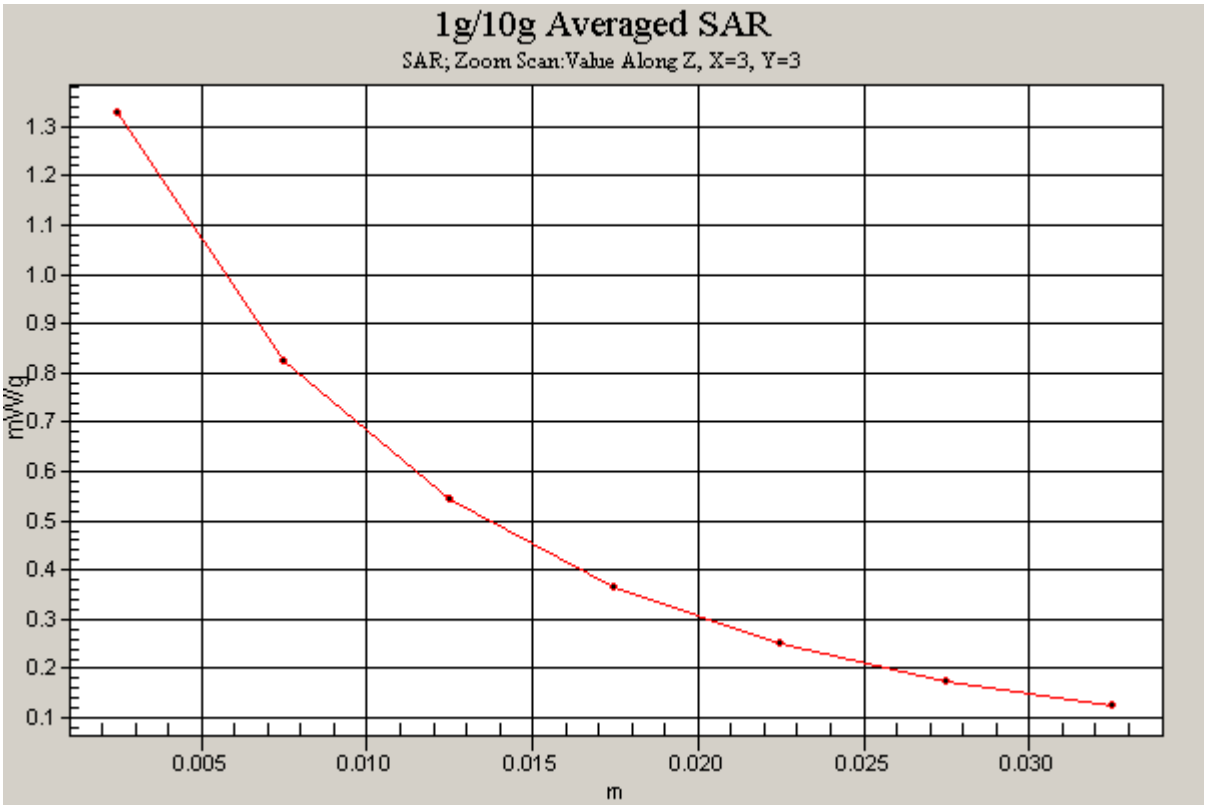



**Figure 28 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128]**

**GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Middle Frequency**

Date/Time: 7/24/2009 1:55:41 AM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 3 Middle/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.487 mW/g

**Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.3 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 1.91 W/kg
**SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.200 mW/g**
Maximum value of SAR (measured) = 0.797 mW/g

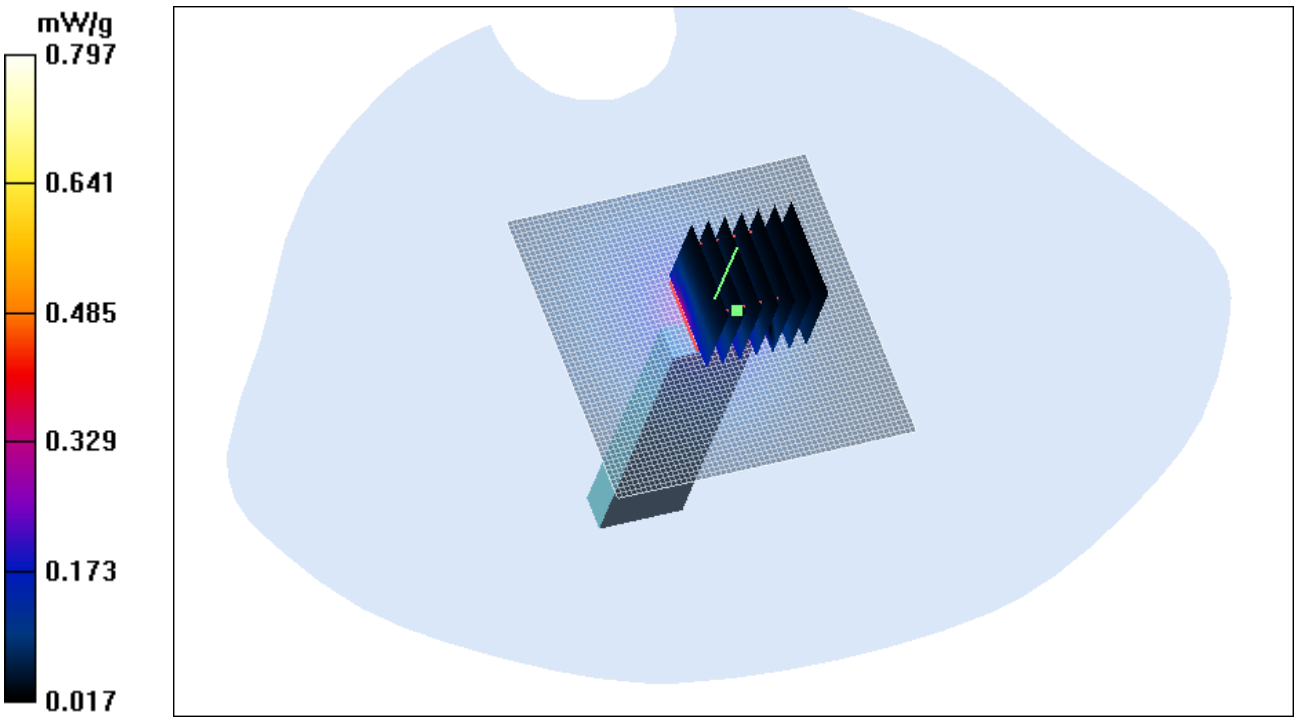



**Figure 29 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Channel 190**

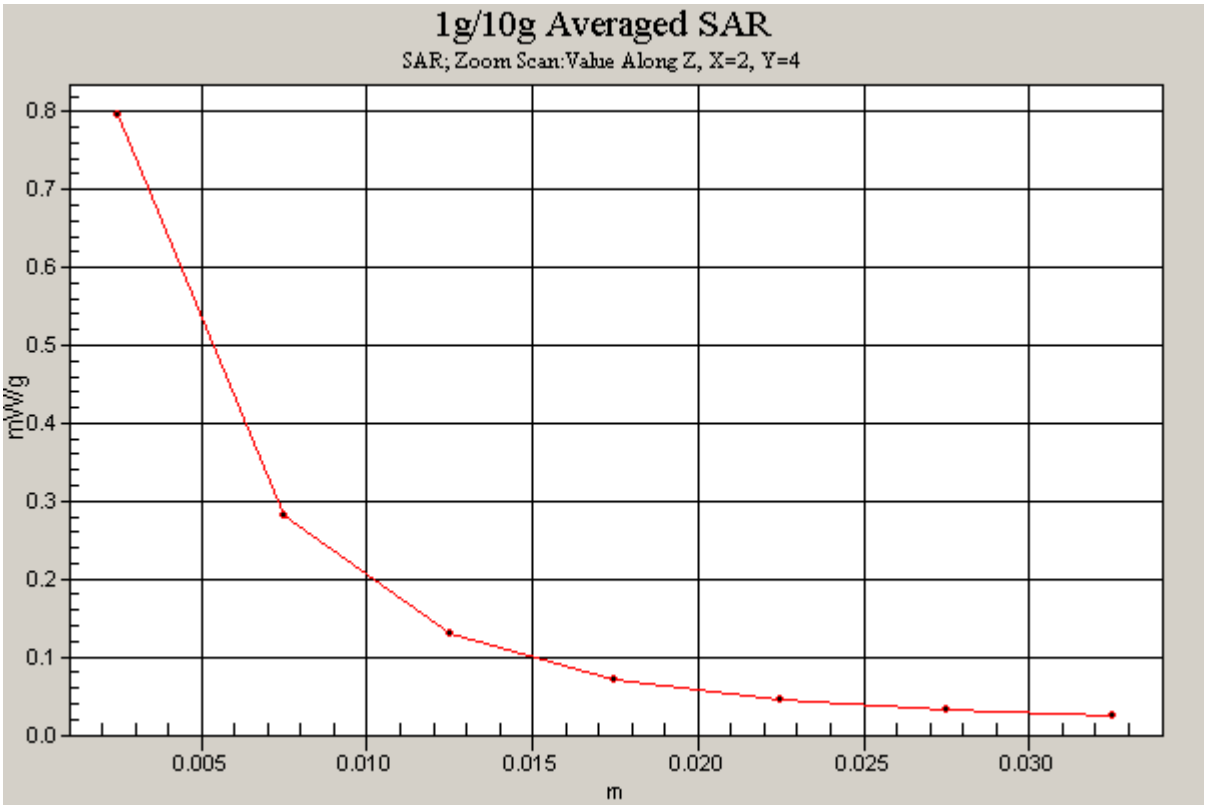



**Figure 30 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Channel 190]**

**GSM 850 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 4 Middle Frequency**

Date/Time: 7/24/2009 2:47:18 AM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 4 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.945 mW/g

**Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.8 V/m; Power Drift = 0.087 dB
Peak SAR (extrapolated) = 1.24 W/kg
**SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.471 mW/g**
Maximum value of SAR (measured) = 0.938 mW/g

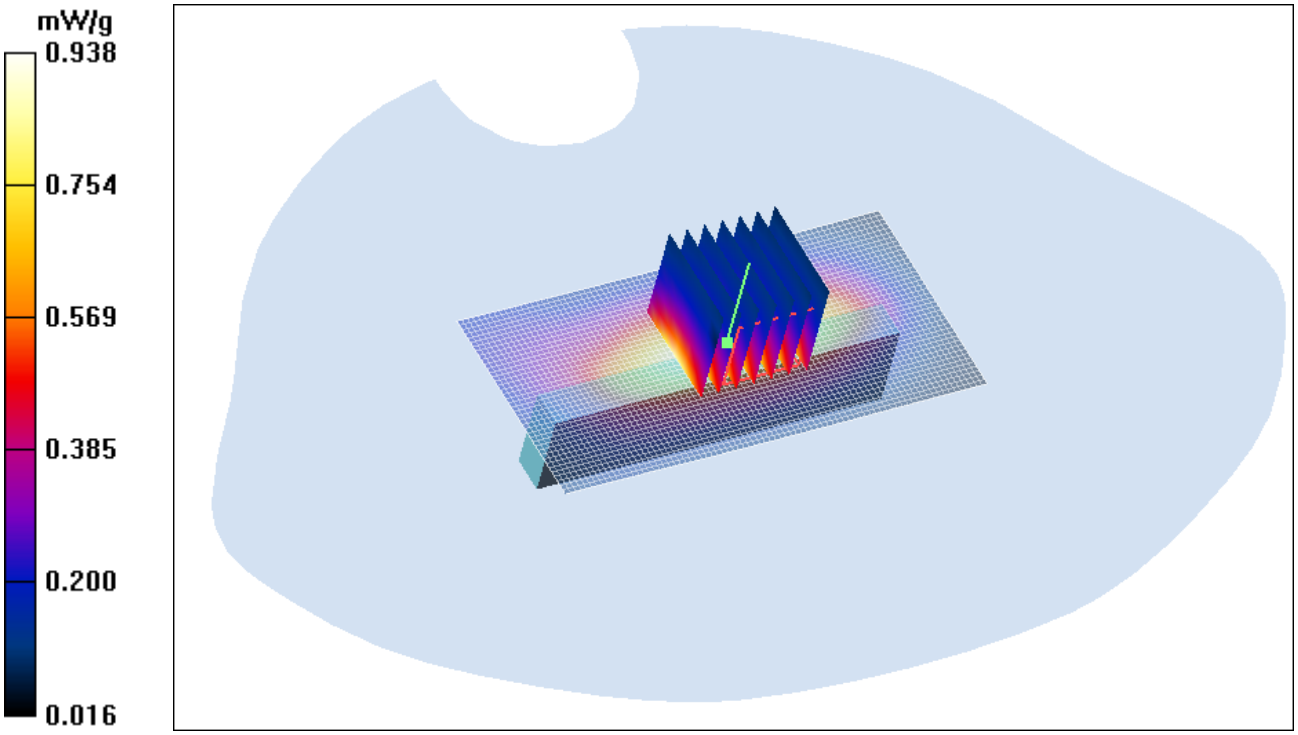



**Figure 31 GSM 850 GPRS (2 timeslots in uplink) with IBM T61180 degree Test Position 4 Channel 190**

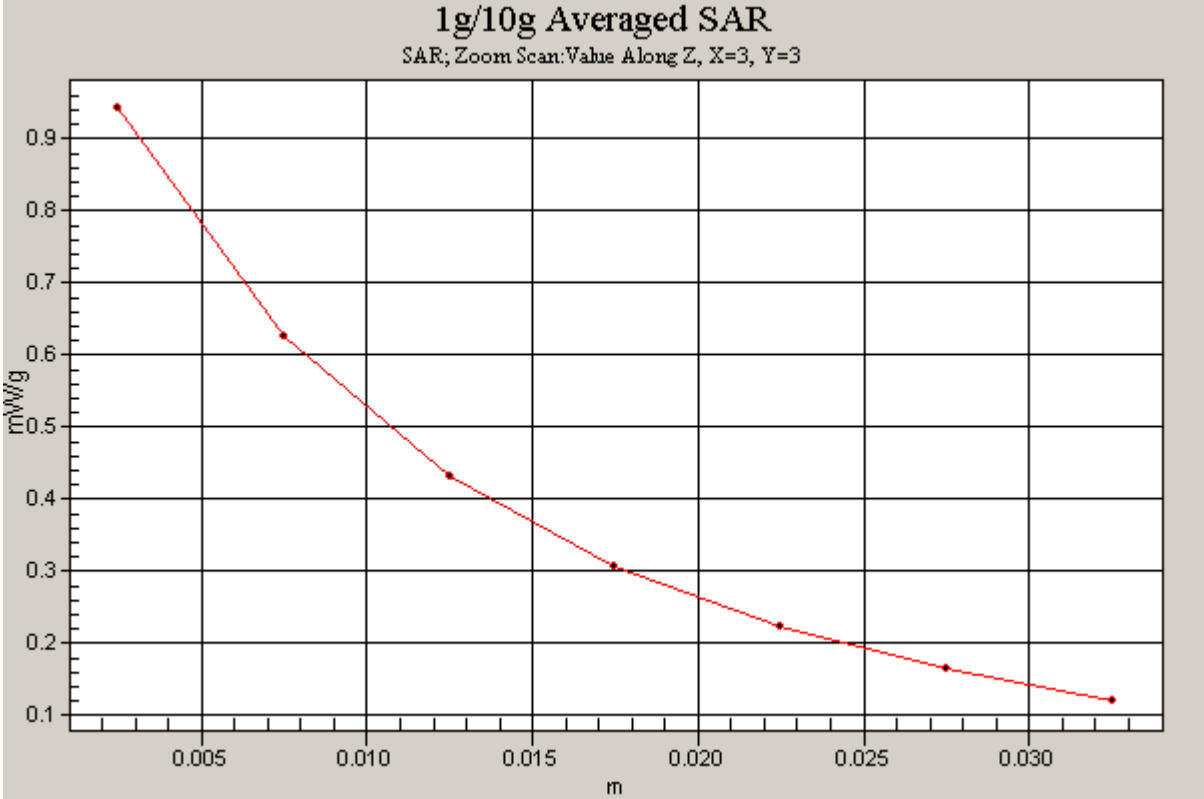



**Figure 32 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 4 Channel 190]**

**GSM 850 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 5 Middle Frequency**

Date/Time: 7/24/2009 2:15:14 AM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 55; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 5 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.800 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.0 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 1.03 W/kg
**SAR(1 g) = 0.651 mW/g; SAR(10 g) = 0.426 mW/g**
Maximum value of SAR (measured) = 0.782 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.0 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 0.878 W/kg
**SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.340 mW/g**
Maximum value of SAR (measured) = 0.715 mW/g

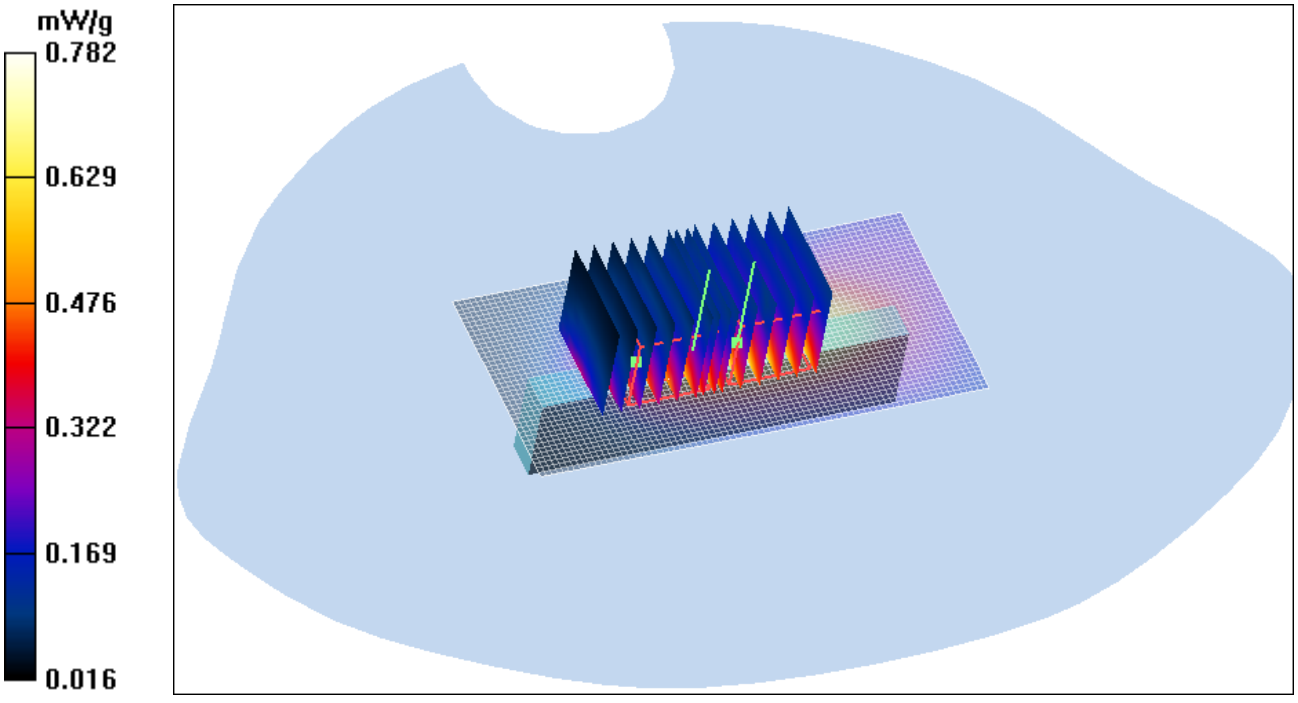
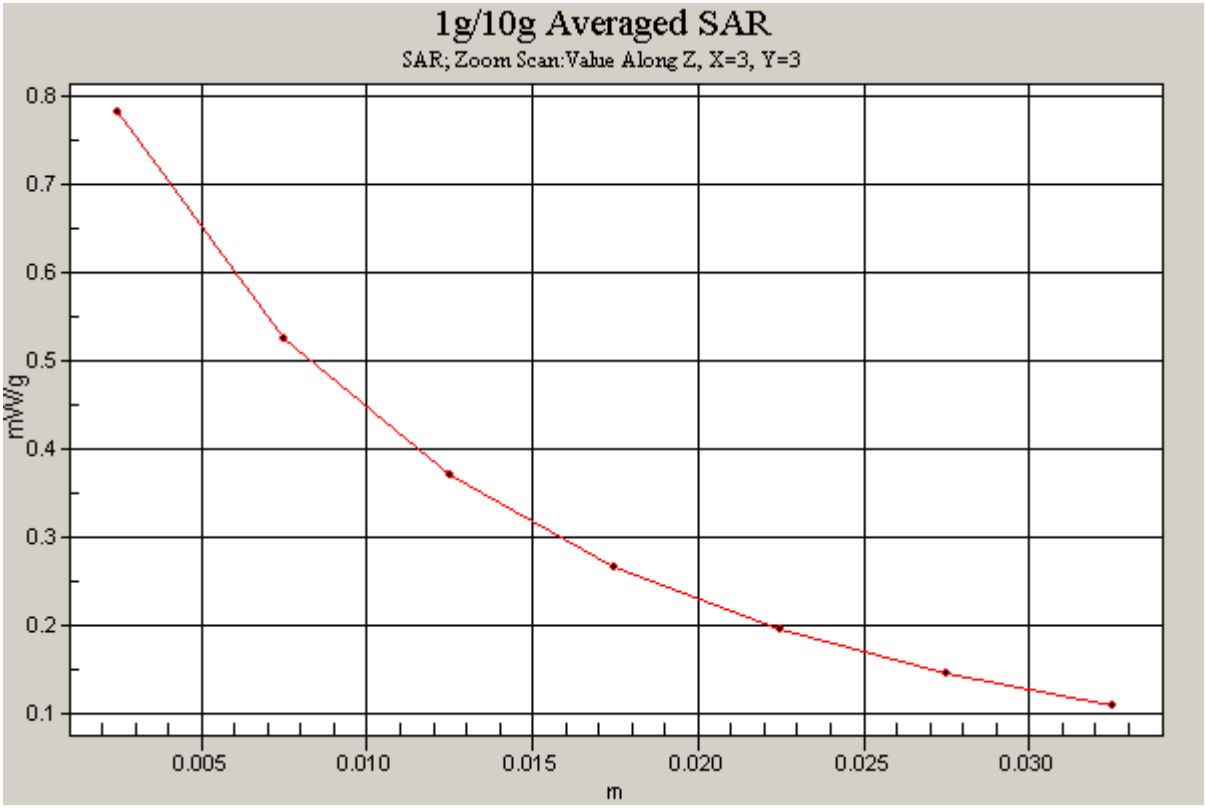



**Figure 33 GSM 850 GPRS (2 timeslots in uplink) with IBM T61180 degree Test Position 5 Channel 190**



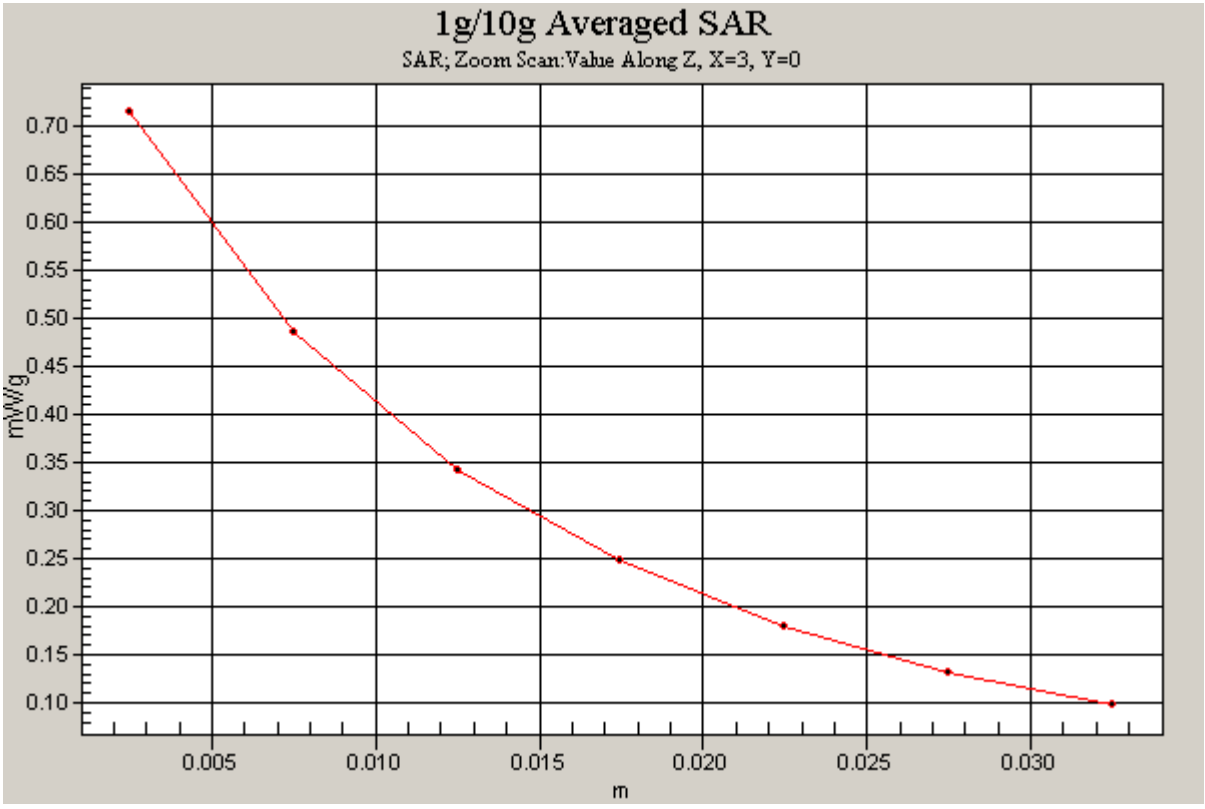




**Figure 34 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 5 Channel 190]**

**GSM 850 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 10:18:03 AM
Communication System: GSM 850+EGPRS(4Up); Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.702 mW/g

**Test Position 2 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.3 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.874 W/kg
**SAR(1 g) = 0.553 mW/g; SAR(10 g) = 0.352 mW/g**
Maximum value of SAR (measured) = 0.679 mW/g

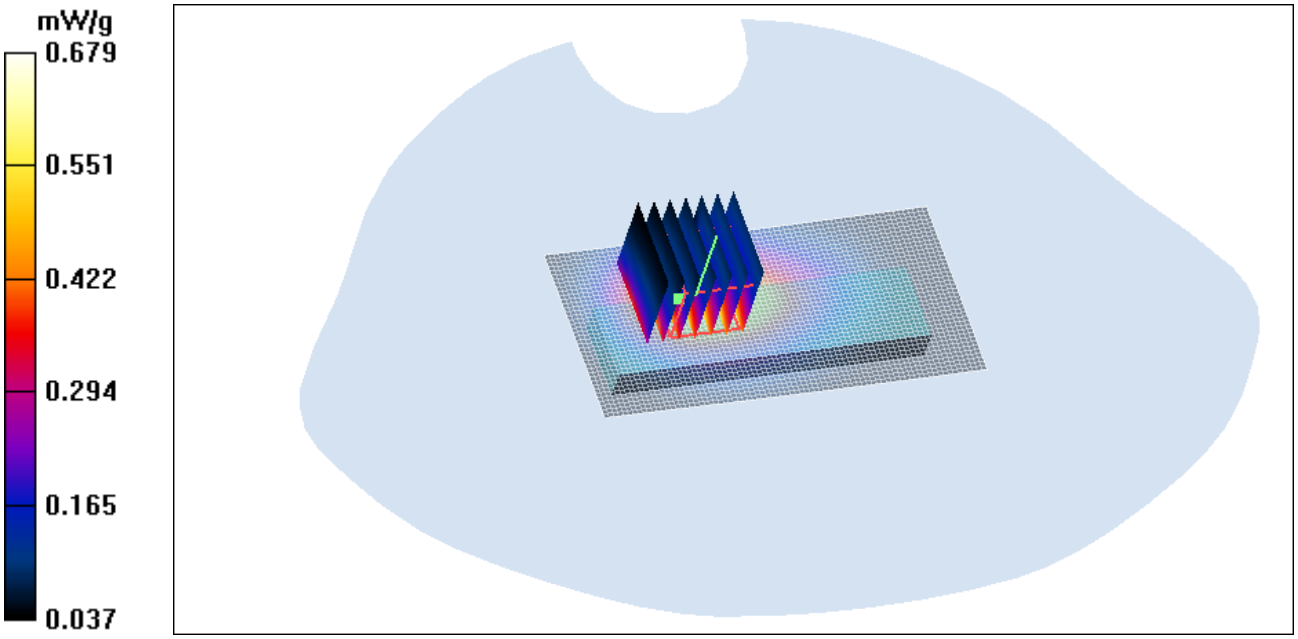



**Figure 35 GSM 850 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2Channel 128**

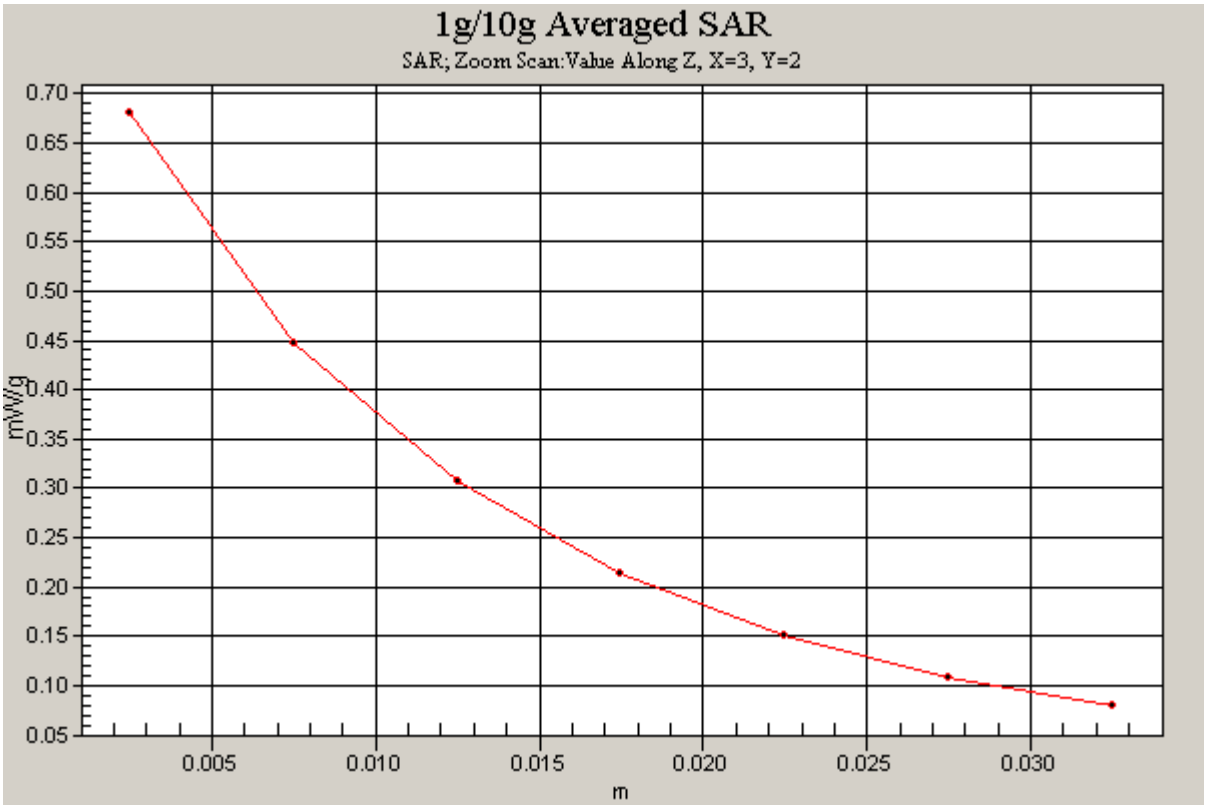



**Figure 36 Z-Scan at power reference point [GSM 850 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128]**

**GSM 850 EGPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 11:15:06 AM
Communication System: GSM850 + EGPRS(3Up); Frequency: 824.2 MHz;Duty Cycle: 1:2.67
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.894 mW/g

**Test Position 2Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.9 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.11 W/kg
**SAR(1 g) = 0.688 mW/g; SAR(10 g) = 0.440 mW/g**
Maximum value of SAR (measured) = 0.860 mW/g

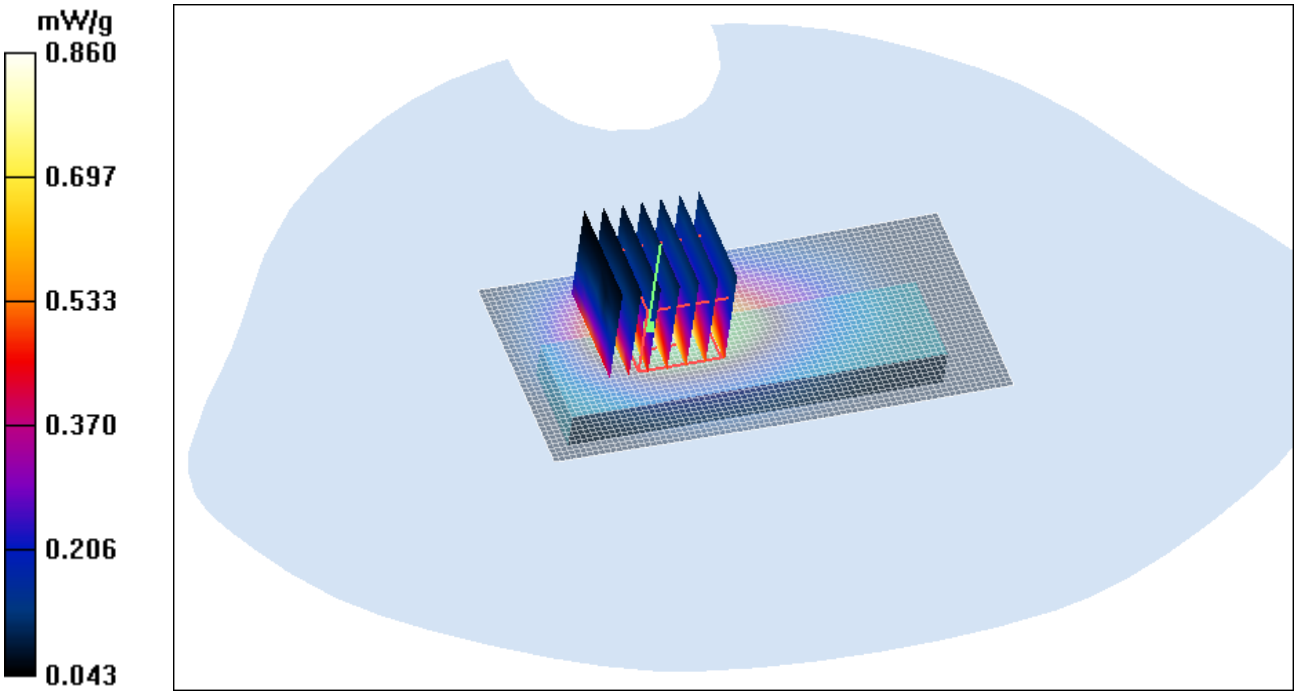



**Figure 37 GSM 850 EGPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2Channel 128**

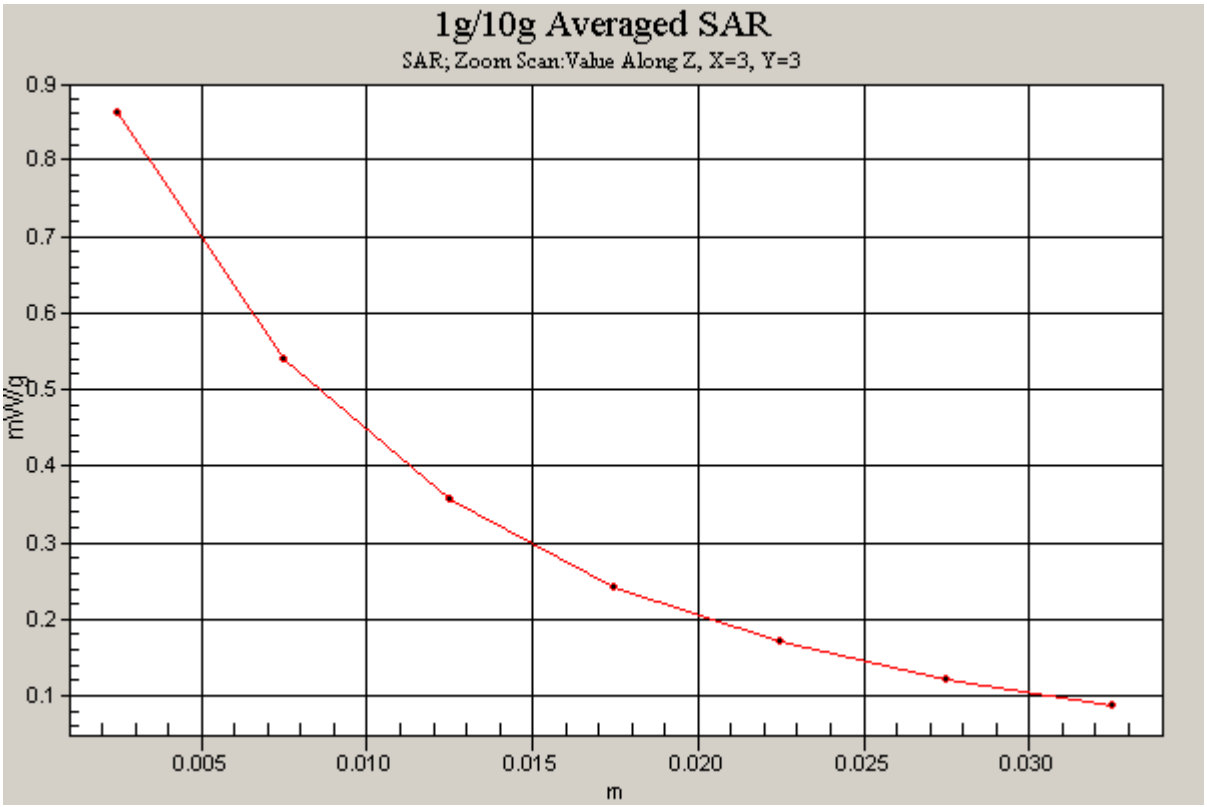



**Figure 38 Z-Scan at power reference point [GSM 850 EGPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128]**

**GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 11:59:24 PM
Communication System: GSM850 + EGPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.39 mW/g

**Test Position 2Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.0 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 1.76 W/kg
**SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.682 mW/g**
Maximum value of SAR (measured) = 1.35 mW/g

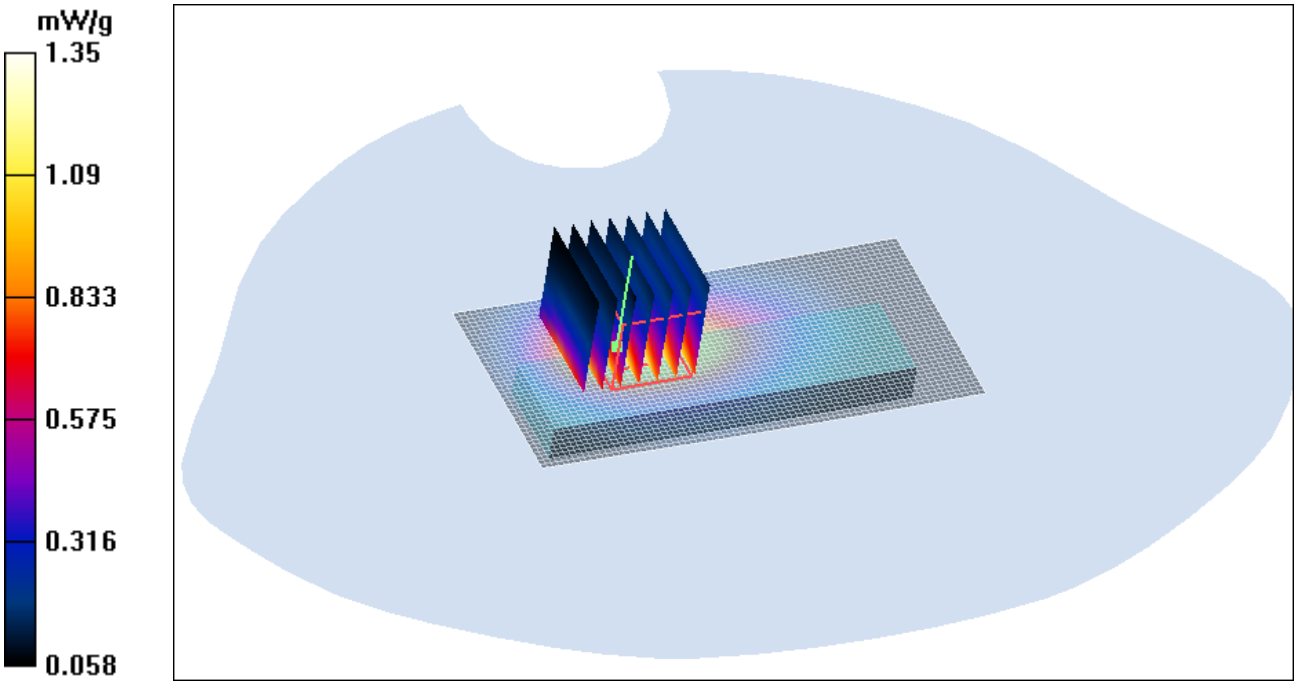



**Figure 39 GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128**

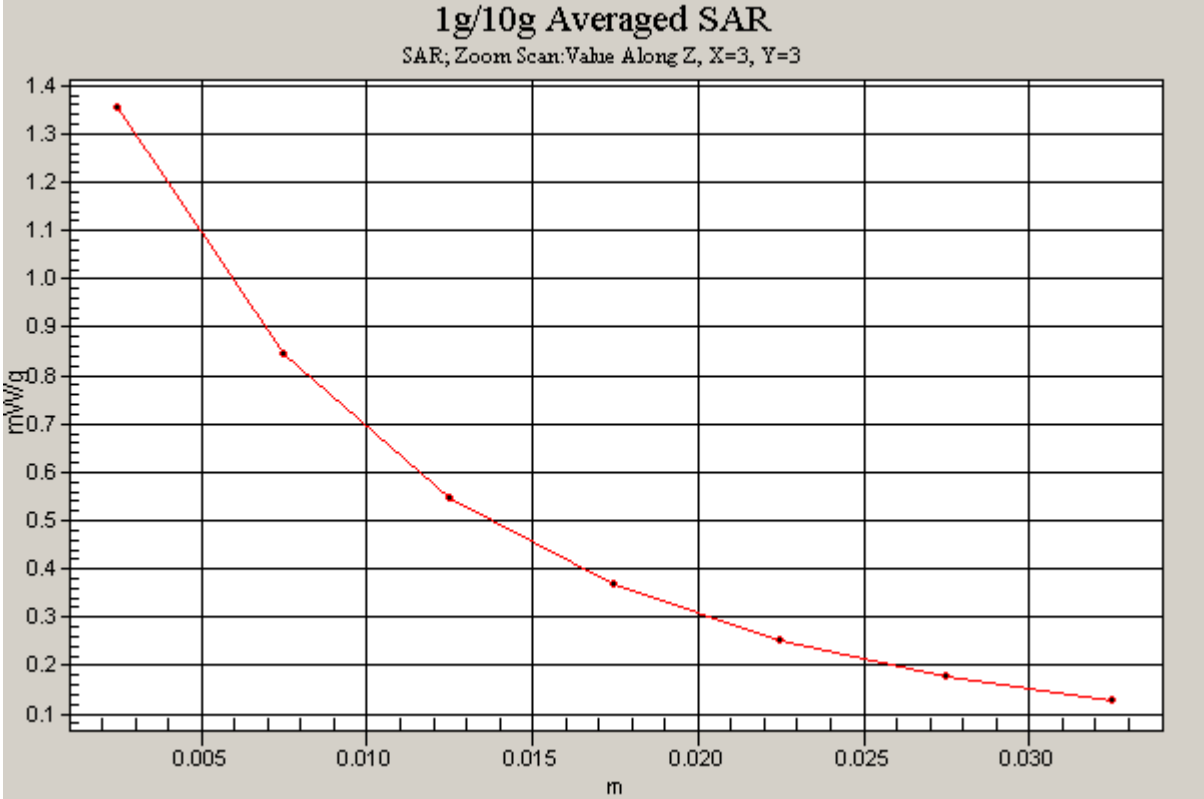



**Figure 40 Z-Scan at power reference point [GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128]**

**GSM 850 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Low Frequency**

Date/Time: 7/24/2009 12:18:22 AM
Communication System: GSM850 + EGPRS(1Up); Frequency: 824.2 MHz;Duty Cycle: 1:8
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 55.2; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.15 mW/g

**Test Position 2 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.2 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 1.47 W/kg
**SAR(1 g) = 0.907 mW/g; SAR(10 g) = 0.574 mW/g**
Maximum value of SAR (measured) = 1.13 mW/g

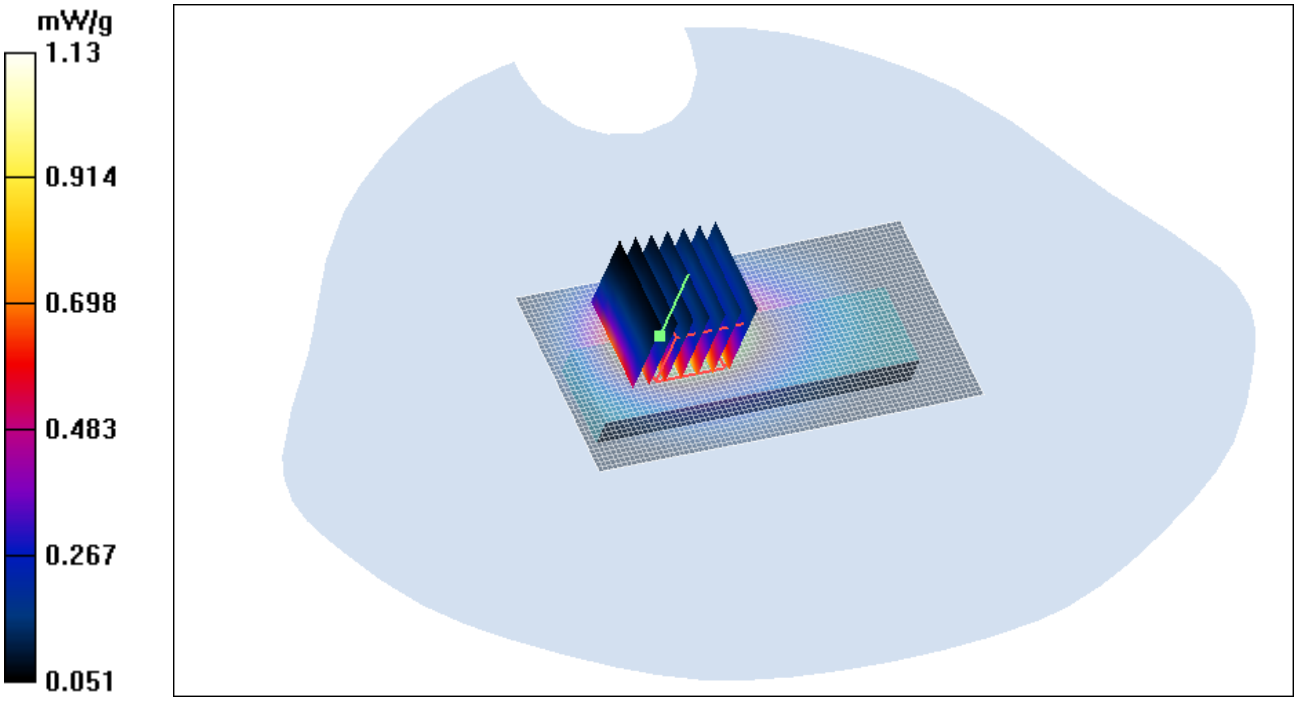



**Figure 41 GSM 850 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128**

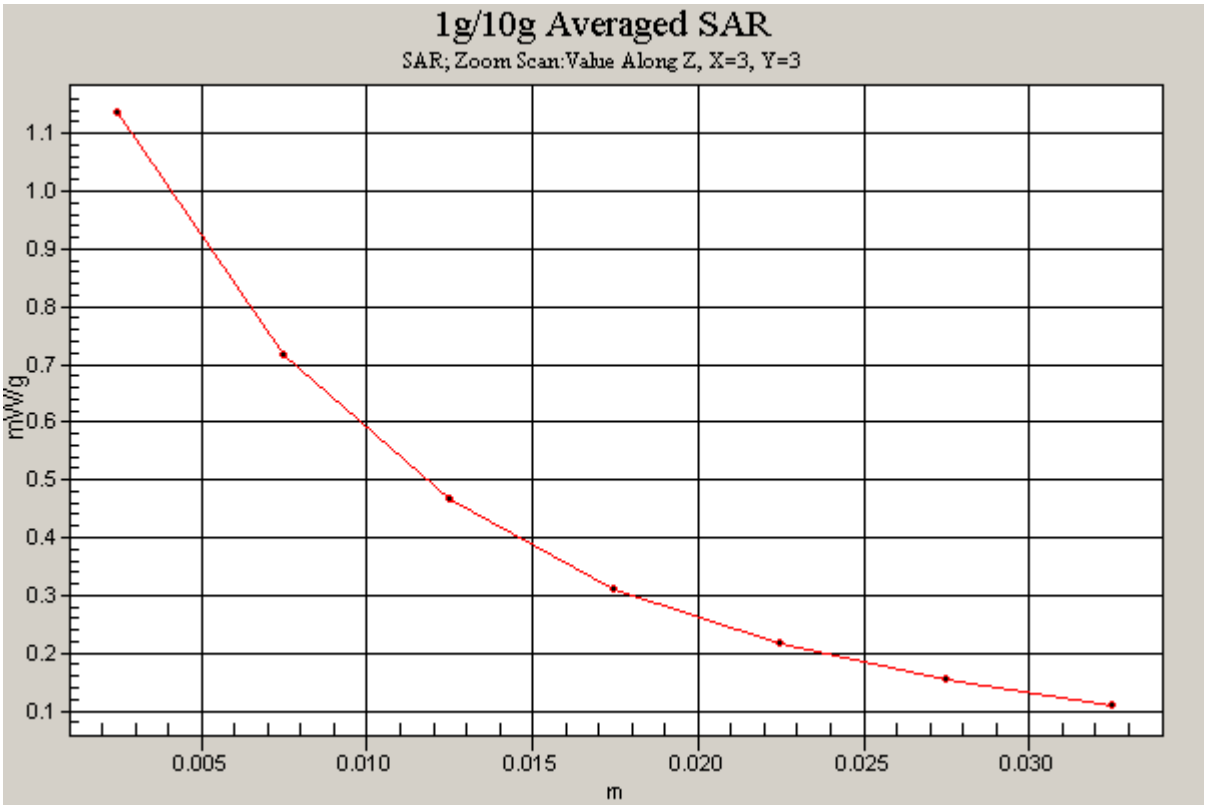



**Figure 42 Z-Scan at power reference point [GSM 850 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 128]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 High Frequency**

Date/Time: 7/25/2009 11:17:31 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.54 mho/m; $\varepsilon_r$ = 52.6; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 1 High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.25 mW/g

**Test Position 1High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 1.56 W/kg
**SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.556 mW/g**
Maximum value of SAR (measured) = 1.20 mW/g
**Test Position 1 High/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 1.10 W/kg
**SAR(1 g) = 0.638 mW/g; SAR(10 g) = 0.360 mW/g**
Maximum value of SAR (measured) = 0.837 mW/g

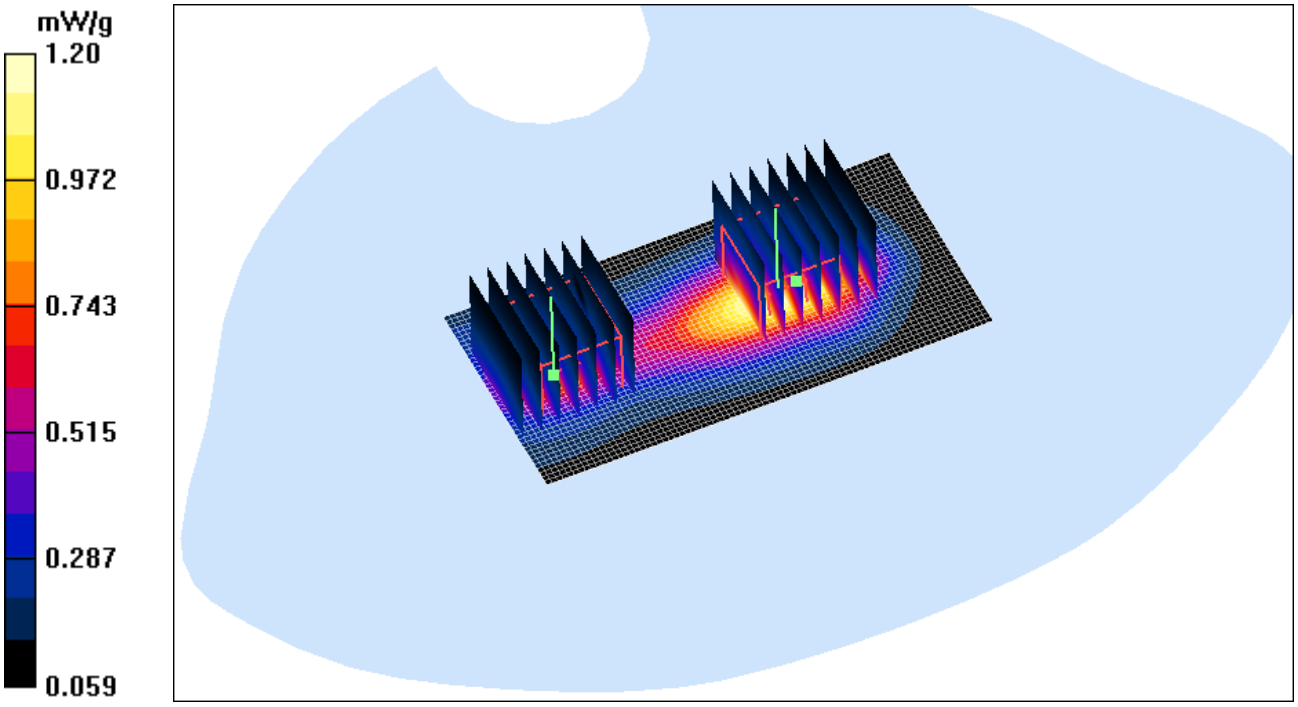
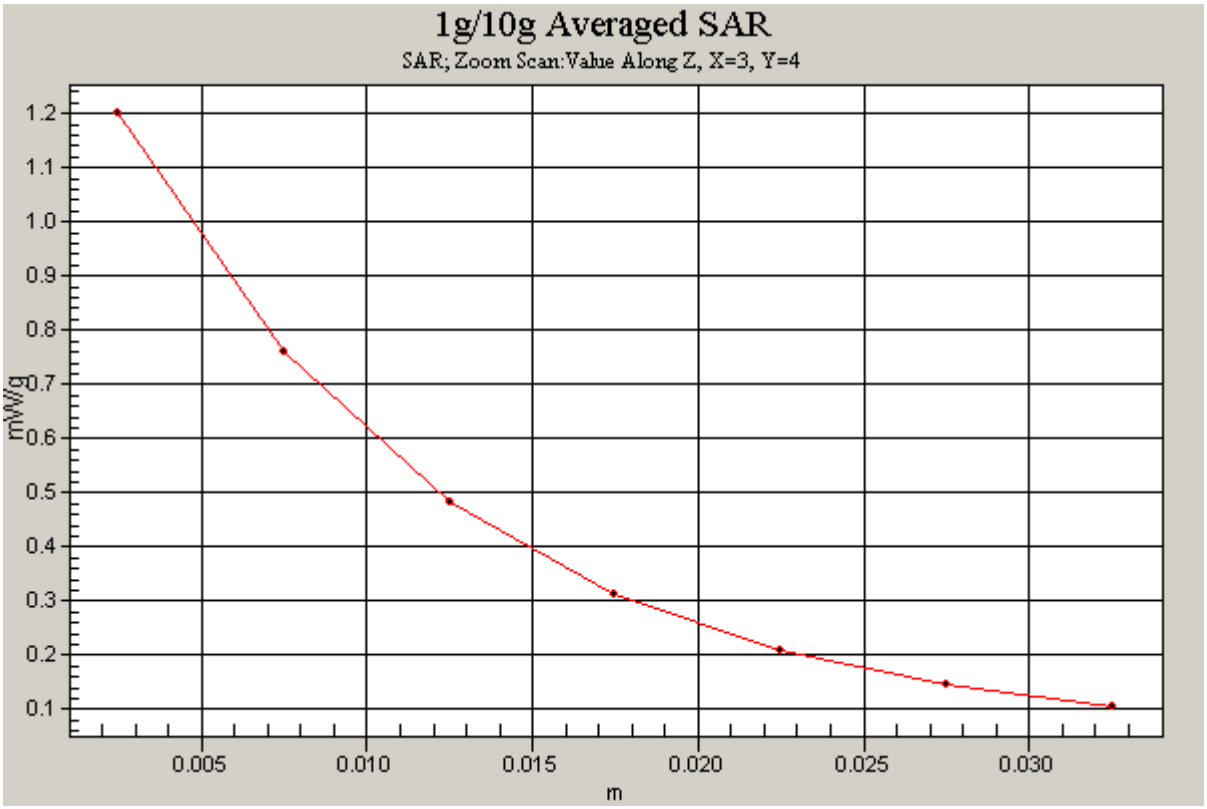



**Figure 43 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 810**



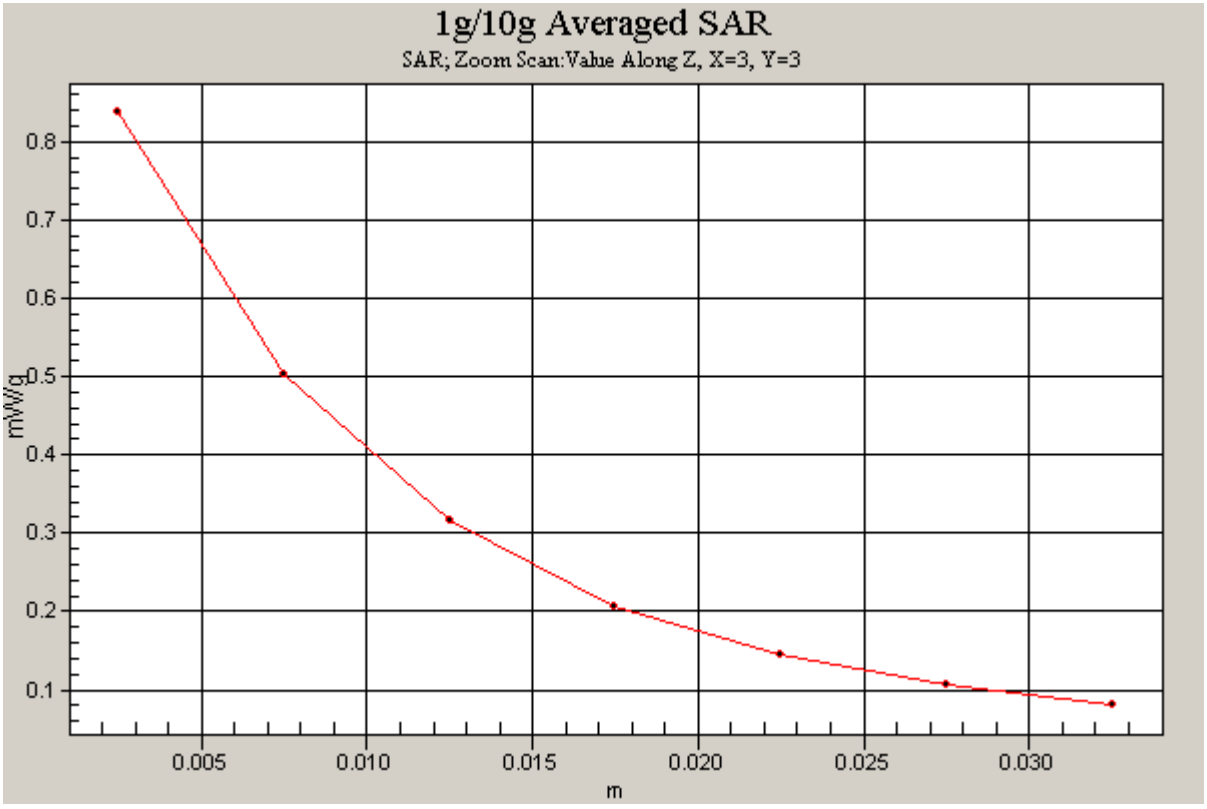




**Figure 44 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 810]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Middle Frequency**

Date/Time: 7/25/2009 10:44:13 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.17 mW/g
**Test Position 1Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 1.53 W/kg
**SAR(1 g) = 0.954 mW/g; SAR(10 g) = 0.559 mW/g**
Maximum value of SAR (measured) = 1.20 mW/g
**Test Position 1Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 1.13 W/kg
**SAR(1 g) = 0.654 mW/g; SAR(10 g) = 0.369 mW/g**
Maximum value of SAR (measured) = 0.858 mW/g

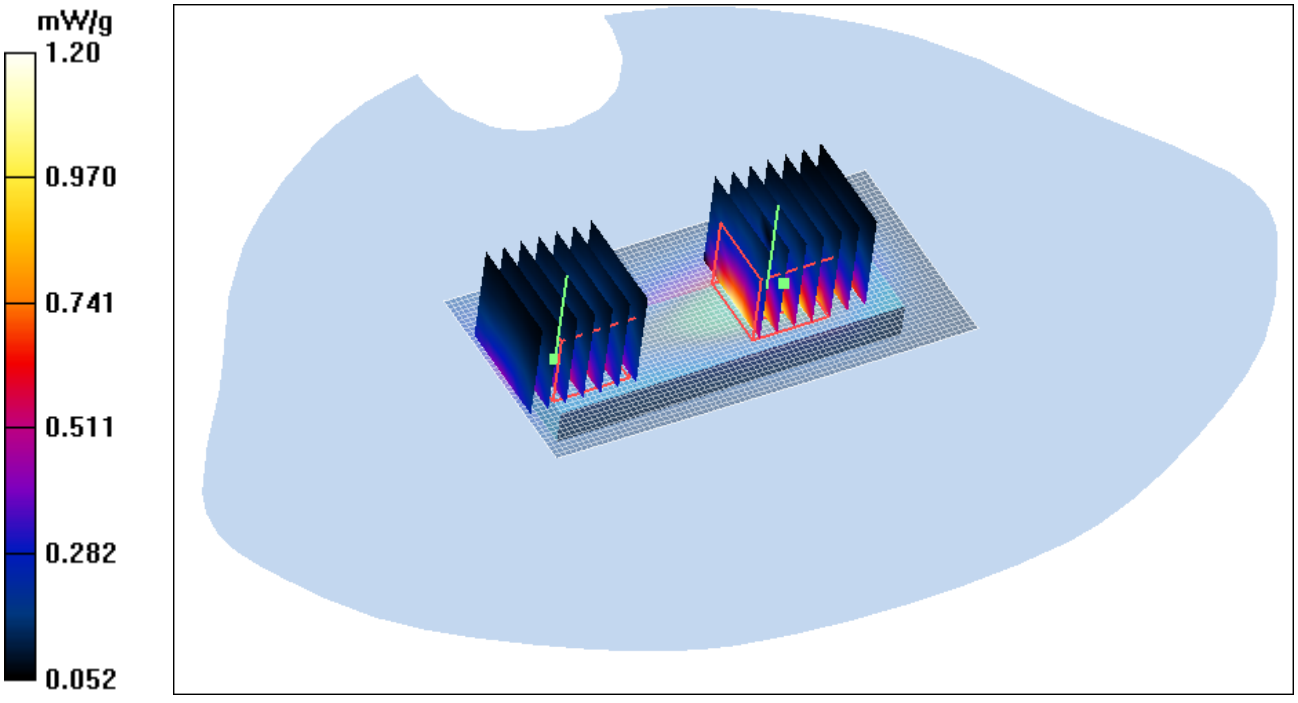
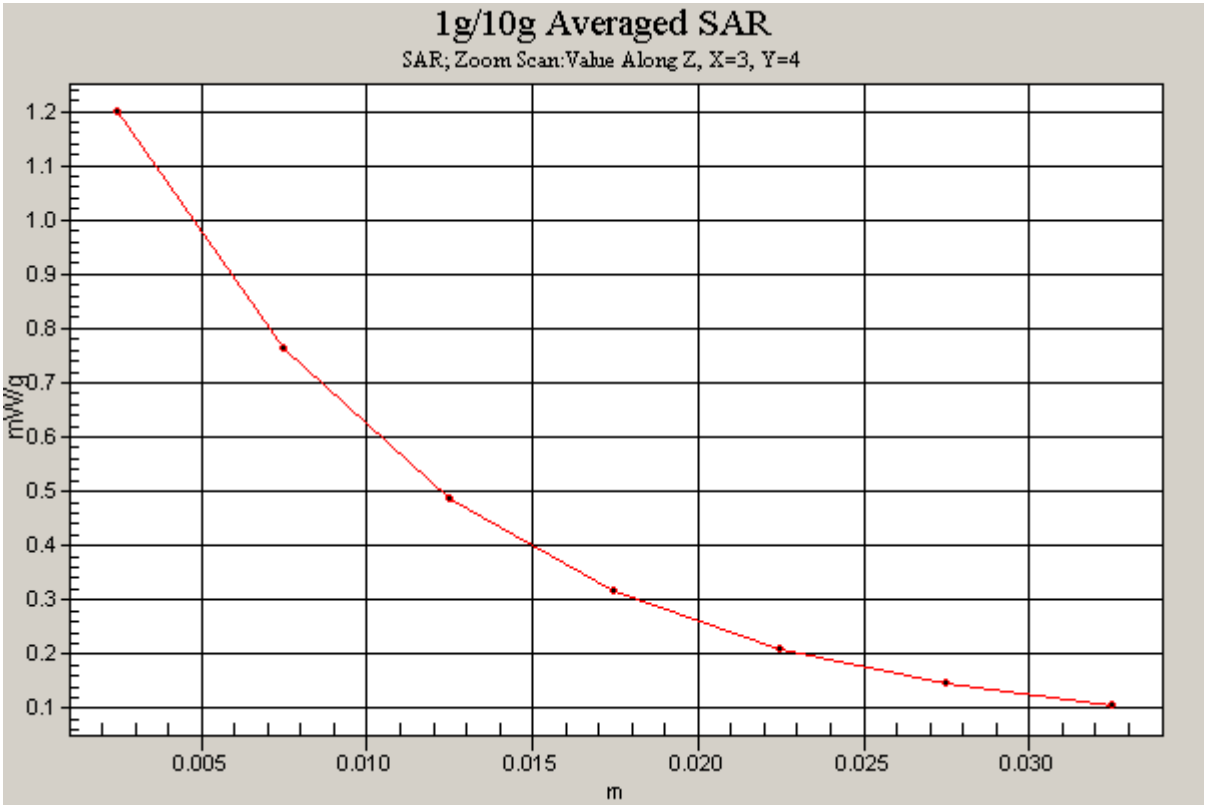



**Figure 45 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 661**



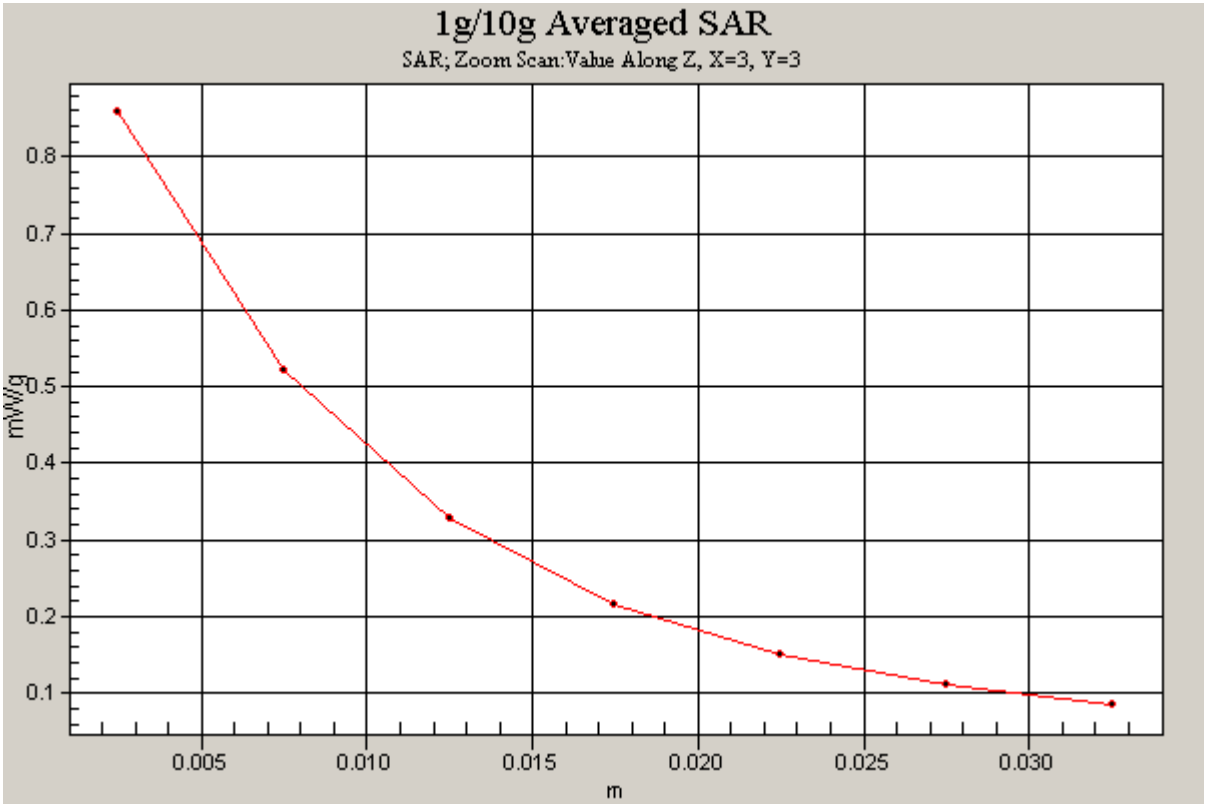




**Figure 46 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Low Frequency**

Date/Time: 7/25/2009 11:46:56 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 52.9; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.21 mW/g
**Test Position 1 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.51 W/kg
**SAR(1 g) = 0.934 mW/g; SAR(10 g) = 0.546 mW/g**
Maximum value of SAR (measured) = 1.17 mW/g
**Test Position 1 Low/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.08 W/kg
**SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.373 mW/g**
Maximum value of SAR (measured) = 0.822 mW/g

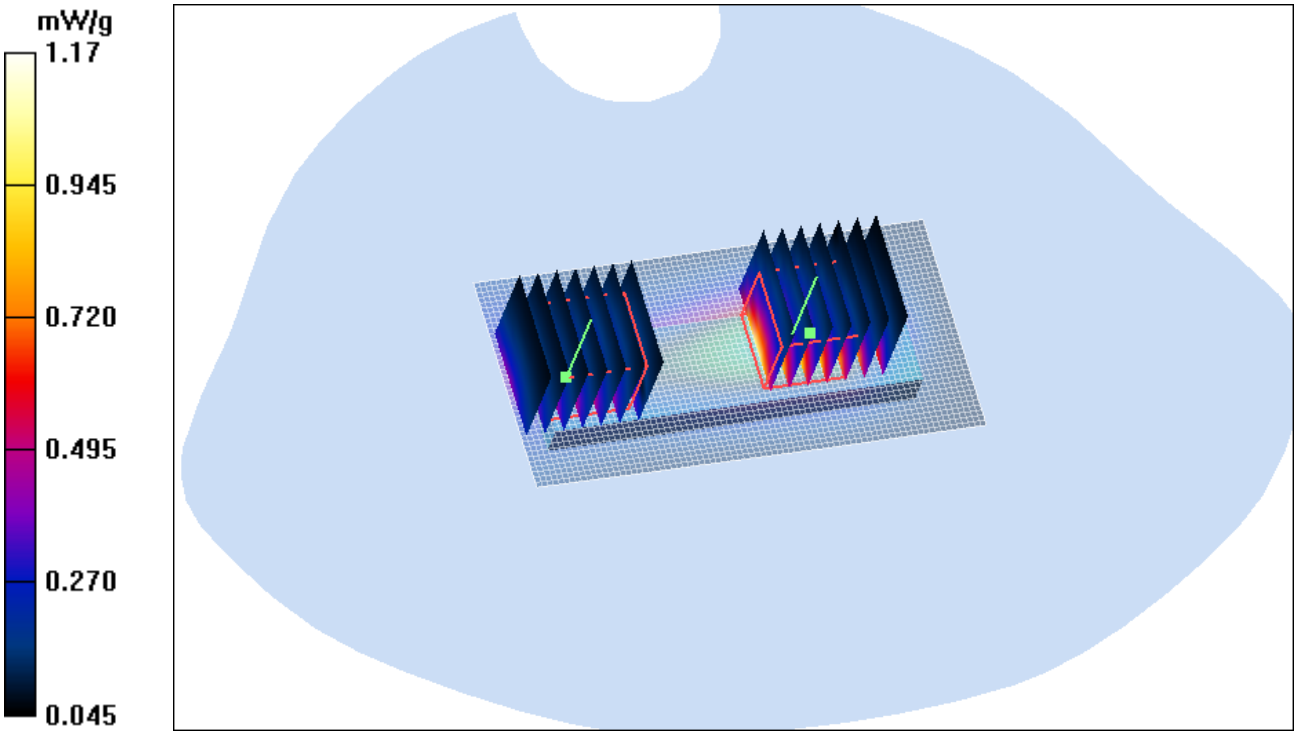
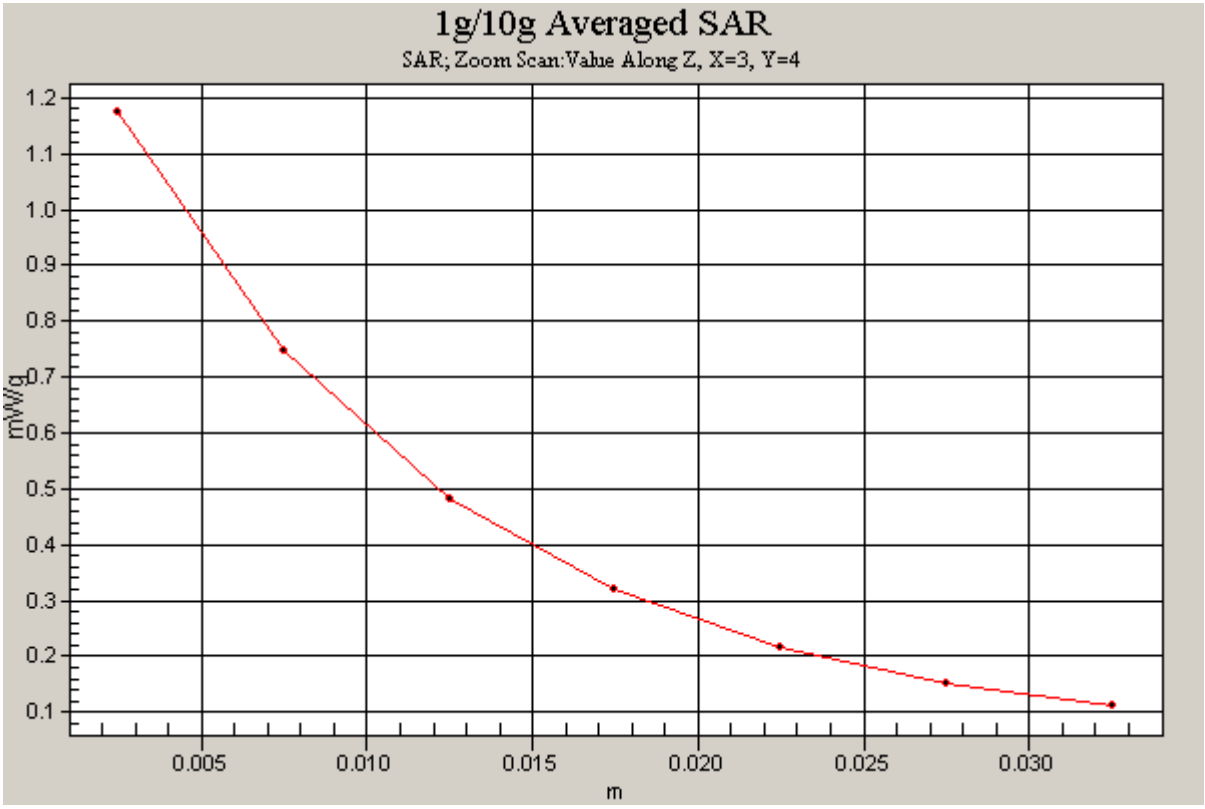



**Figure 47 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1Channel 512**



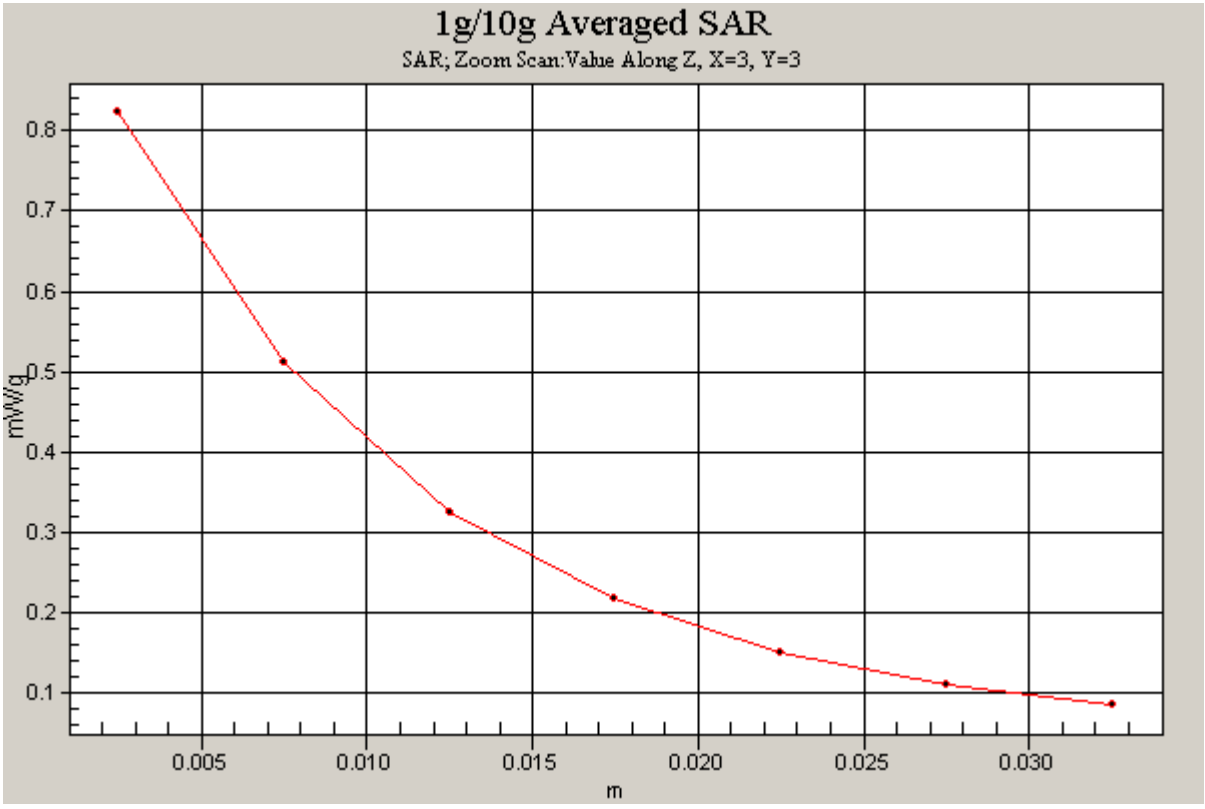




**Figure 48 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 1 Channel 512]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1 High Frequency**

Date/Time: 7/25/2009 2:26:03 AM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.54 mho/m; $\varepsilon_r$ = 52.6; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.24 mW/g
**Test Position 1High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.7 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 1.46 W/kg
**SAR(1 g) = 0.942 mW/g; SAR(10 g) = 0.564 mW/g**
Maximum value of SAR (measured) = 1.17 mW/g
**Test Position 1High/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.7 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 1.19 W/kg
**SAR(1 g) = 0.634 mW/g; SAR(10 g) = 0.379 mW/g**
Maximum value of SAR (measured) = 0.819 mW/g

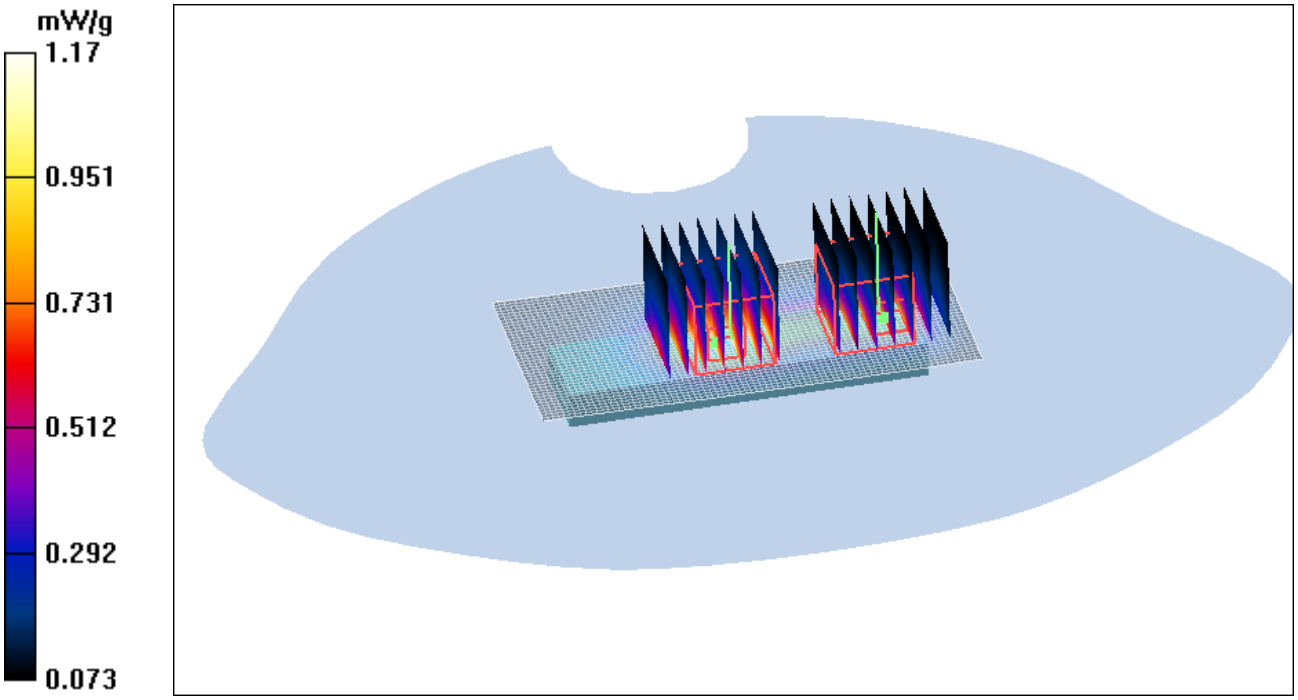
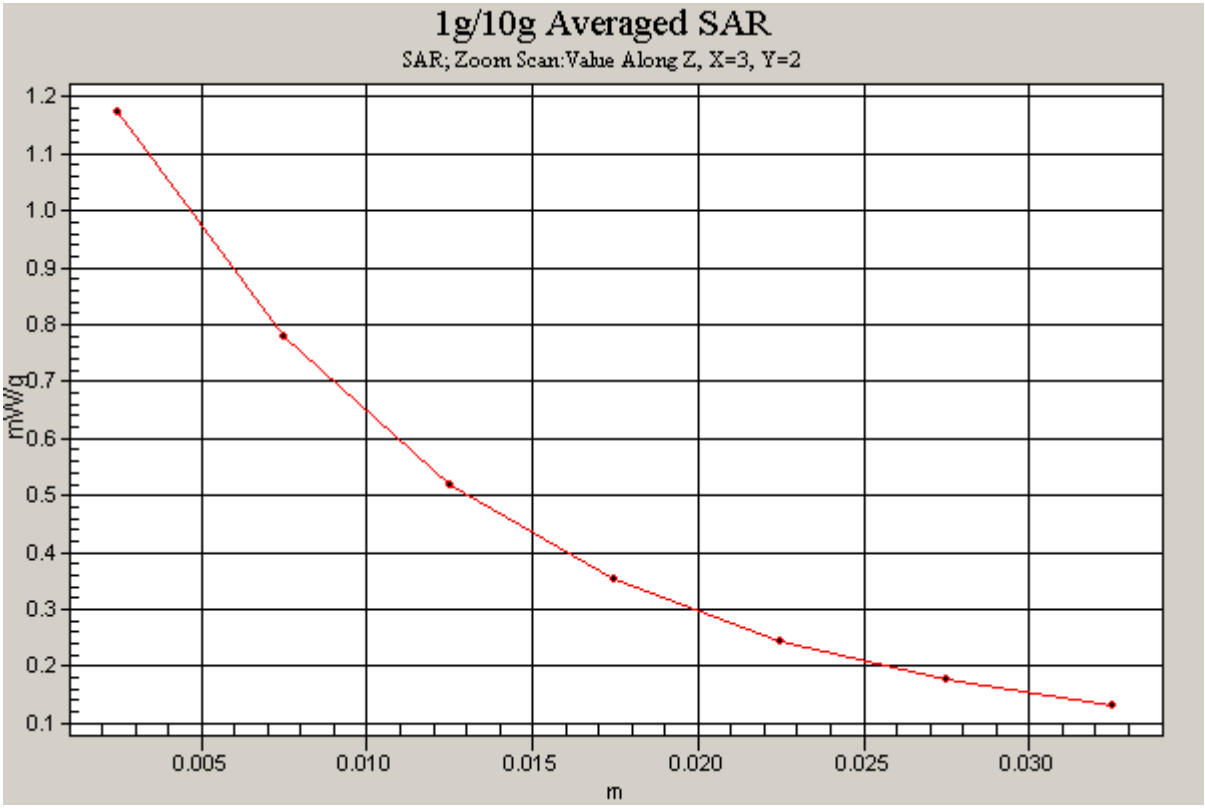



**Figure 49 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1Channel 810**



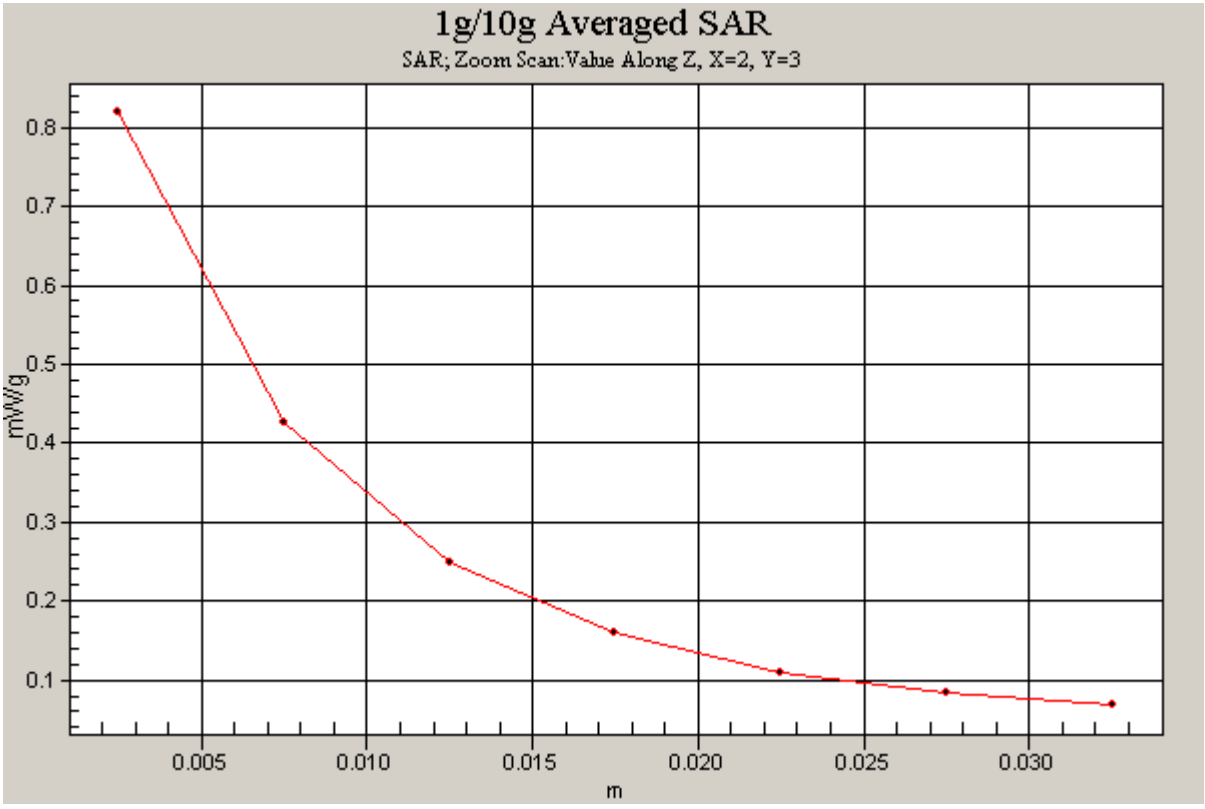




**Figure 50 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 90 degree Test Position 1 Channel 810]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 High Frequency**

Date/Time: 7/25/2009 6:46:33 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.54 mho/m; $\varepsilon_r$ = 52.6; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.48 mW/g

**Test Position 2 High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.7 V/m; Power Drift = 0.084 dB
Peak SAR (extrapolated) = 1.72 W/kg
**SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.511 mW/g**
Maximum value of SAR (measured) = 1.22 mW/g

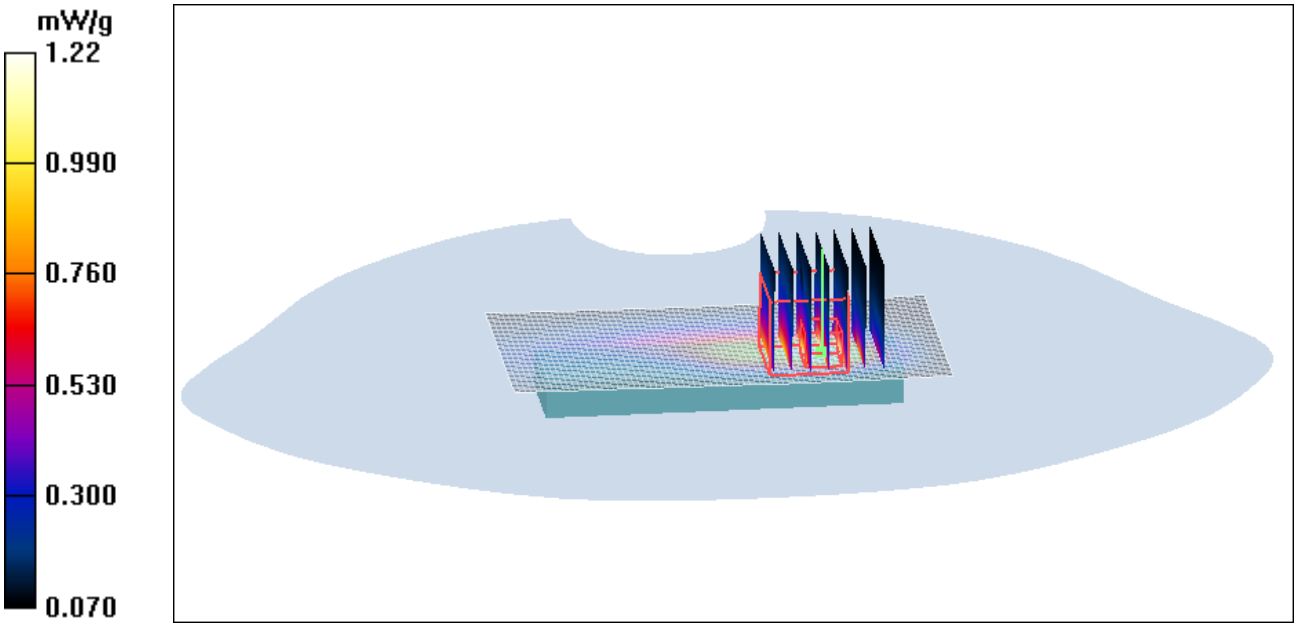



**Figure 51 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 810**

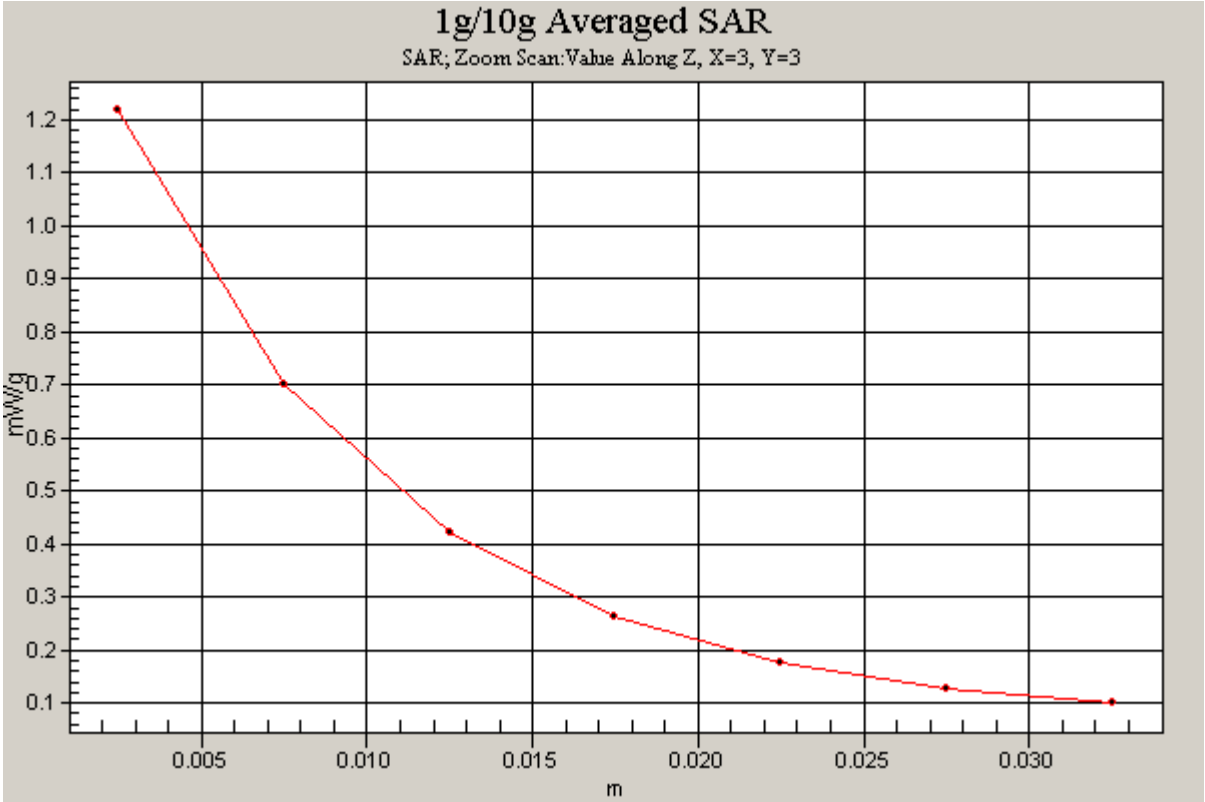



**Figure 52 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 810]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 10:14:43 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.44 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 1.90 W/kg
**SAR(1 g) = 1.000 mW/g; SAR(10 g) = 0.557 mW/g**
Maximum value of SAR (measured) = 1.35 mW/g

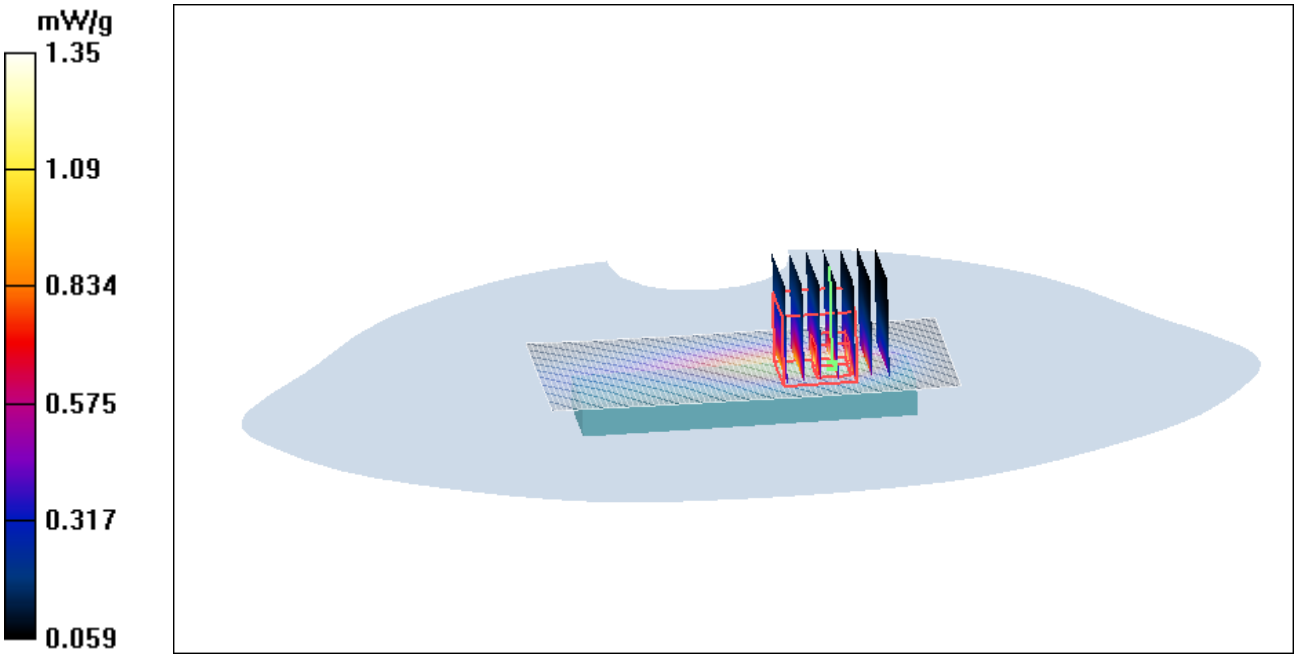



**Figure 53 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 661**

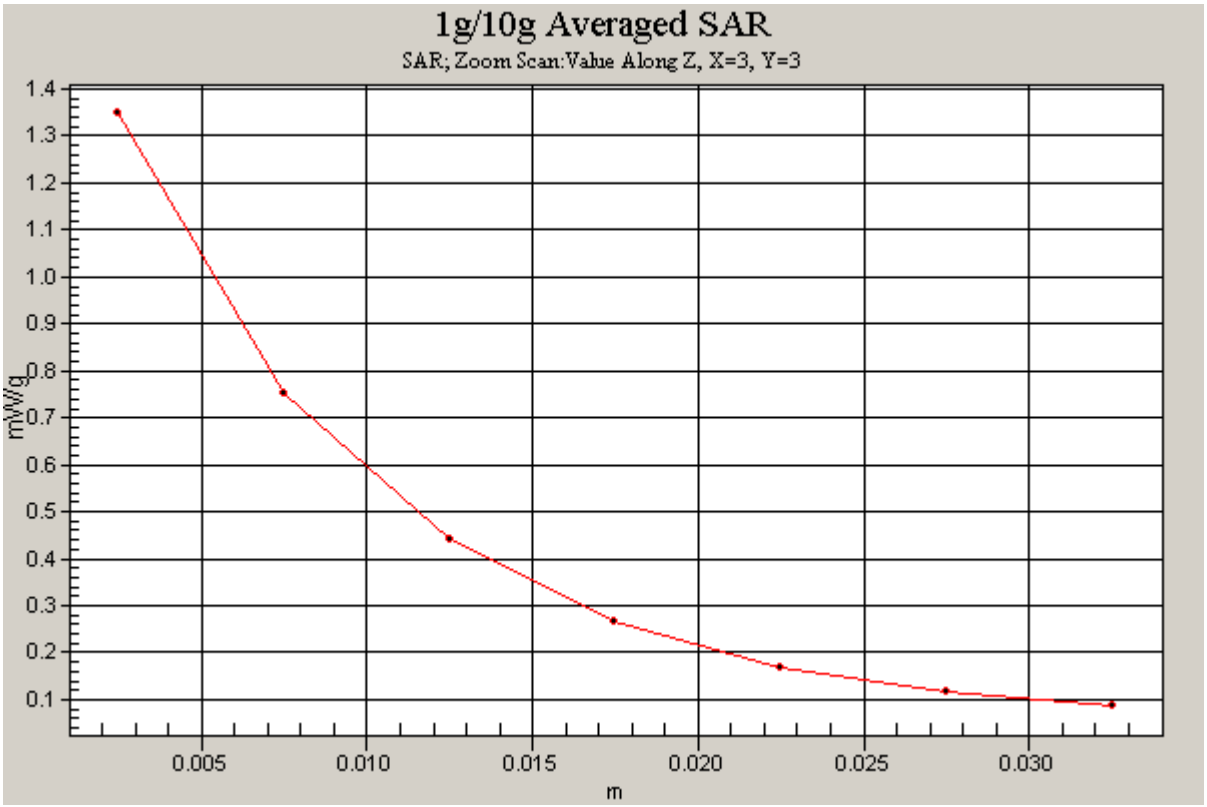



**Figure 54 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Low Frequency**

Date/Time: 7/25/2009 7:03:15 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 52.9; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.48 mW/g

**Test Position 2 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.5 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 1.65 W/kg
**SAR(1 g) = 0.896 mW/g; SAR(10 g) = 0.514 mW/g**
Maximum value of SAR (measured) = 1.17 mW/g

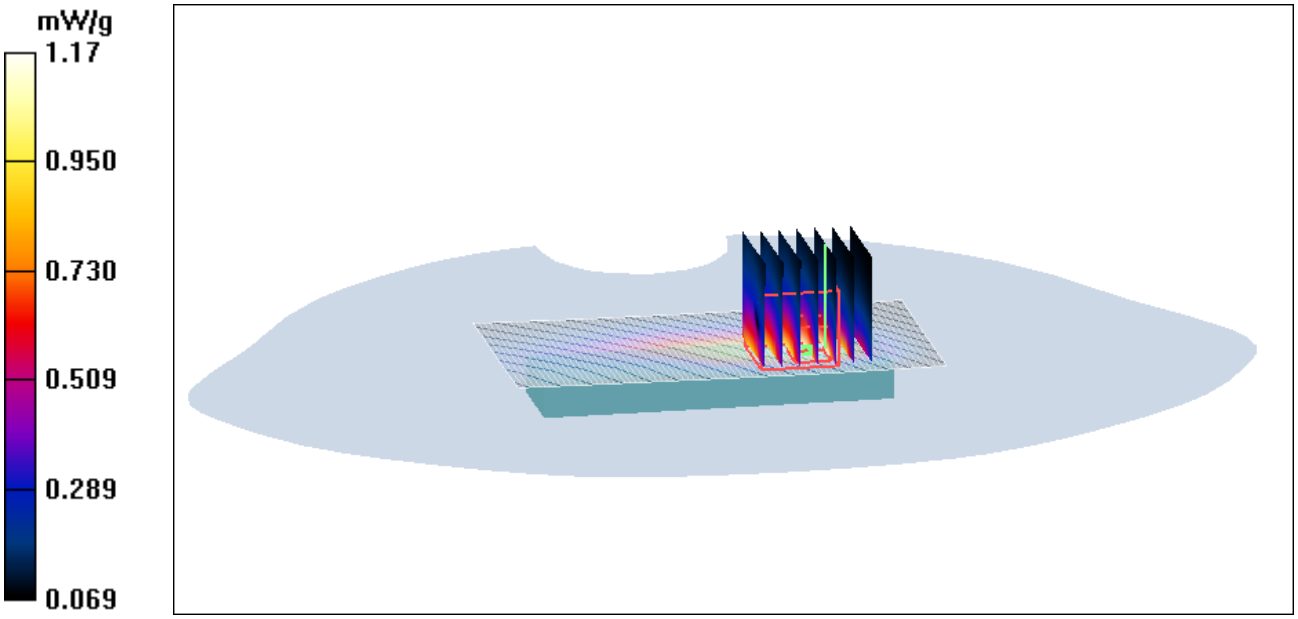



**Figure 55 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 512**

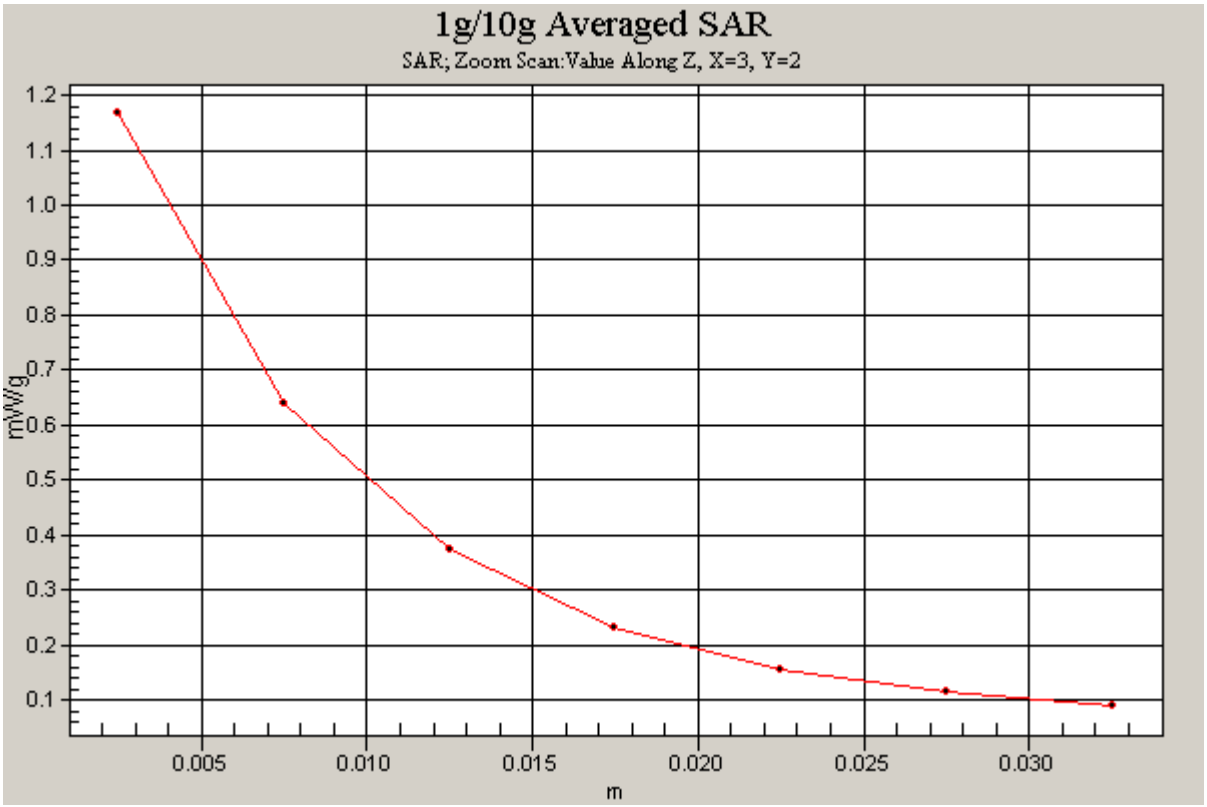



**Figure 56 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 512]**

**GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 7:21:01 PM
Communication System: PCS 1900+GPRS(1Up); Frequency: 1880 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.21 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.0 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.45 W/kg
**SAR(1 g) = 0.776 mW/g; SAR(10 g) = 0.442 mW/g**
Maximum value of SAR (measured) = 1.04 mW/g

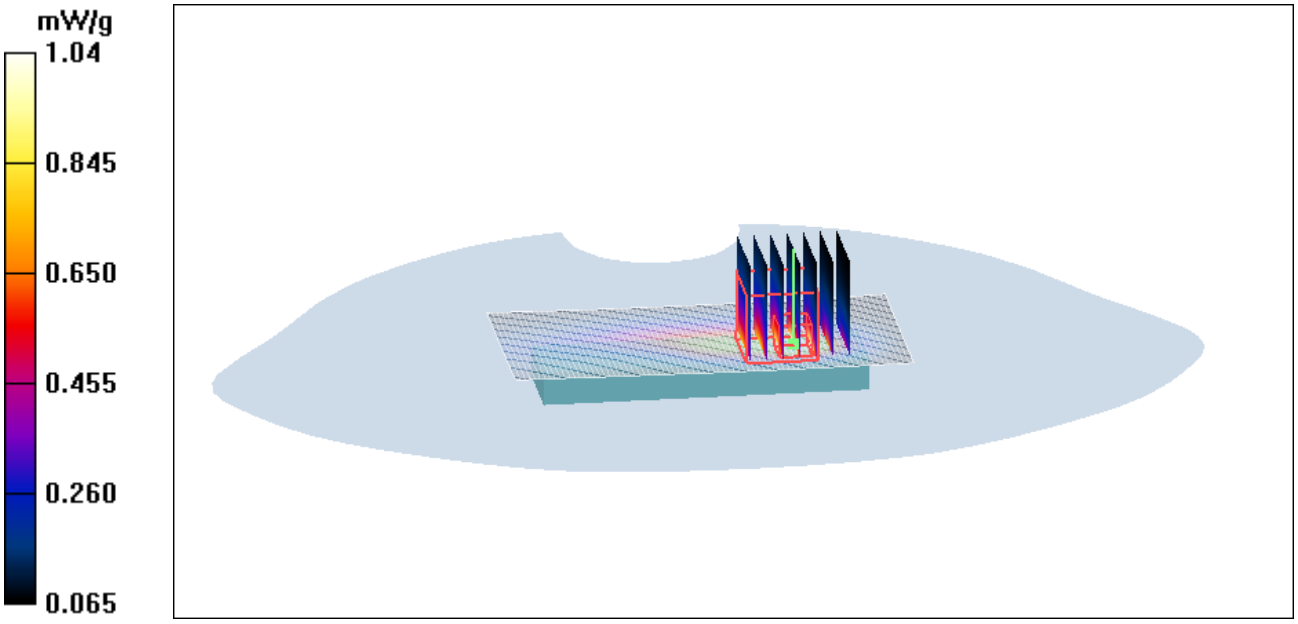



**Figure 57 GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2Channel 661**

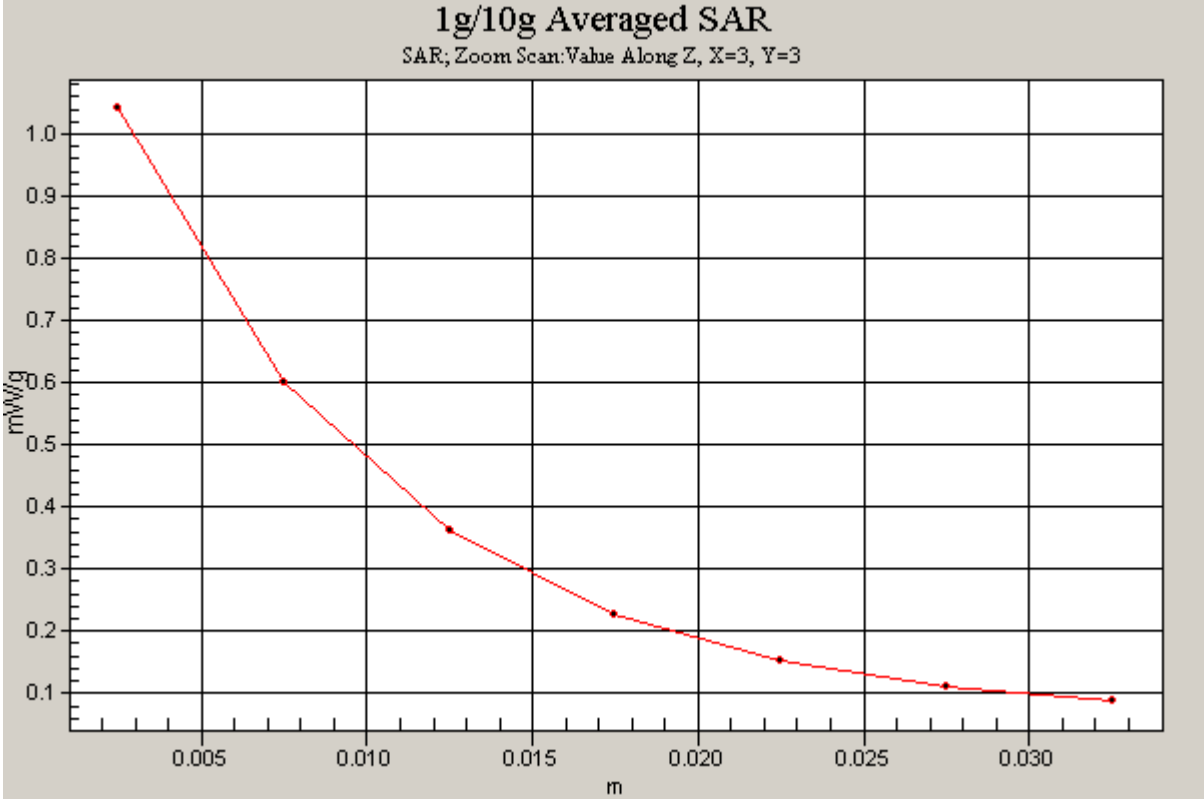



**Figure 58 Z-Scan at power reference point [GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joybook R55V 180 degree Test Position 2 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 7:44:09 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.40 mW/g
**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 1.62 W/kg
**SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.658 mW/g**
Maximum value of SAR (measured) = 1.36 mW/g
**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 1.51 W/kg
**SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.400 mW/g**
Maximum value of SAR (measured) = 1.06 mW/g

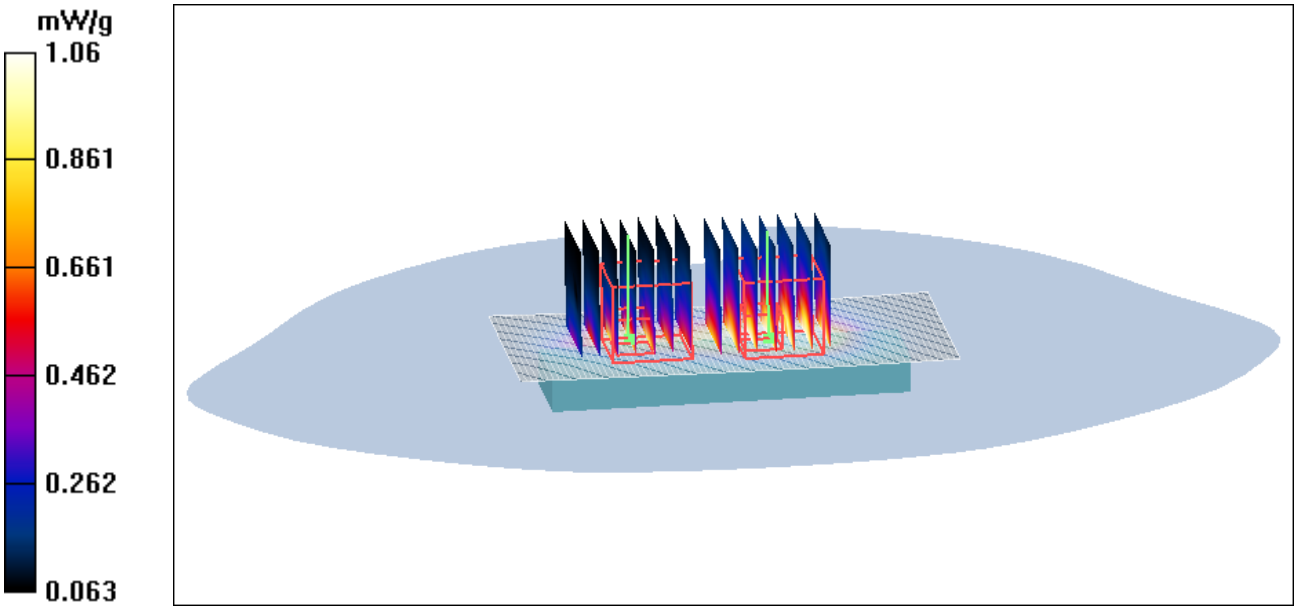
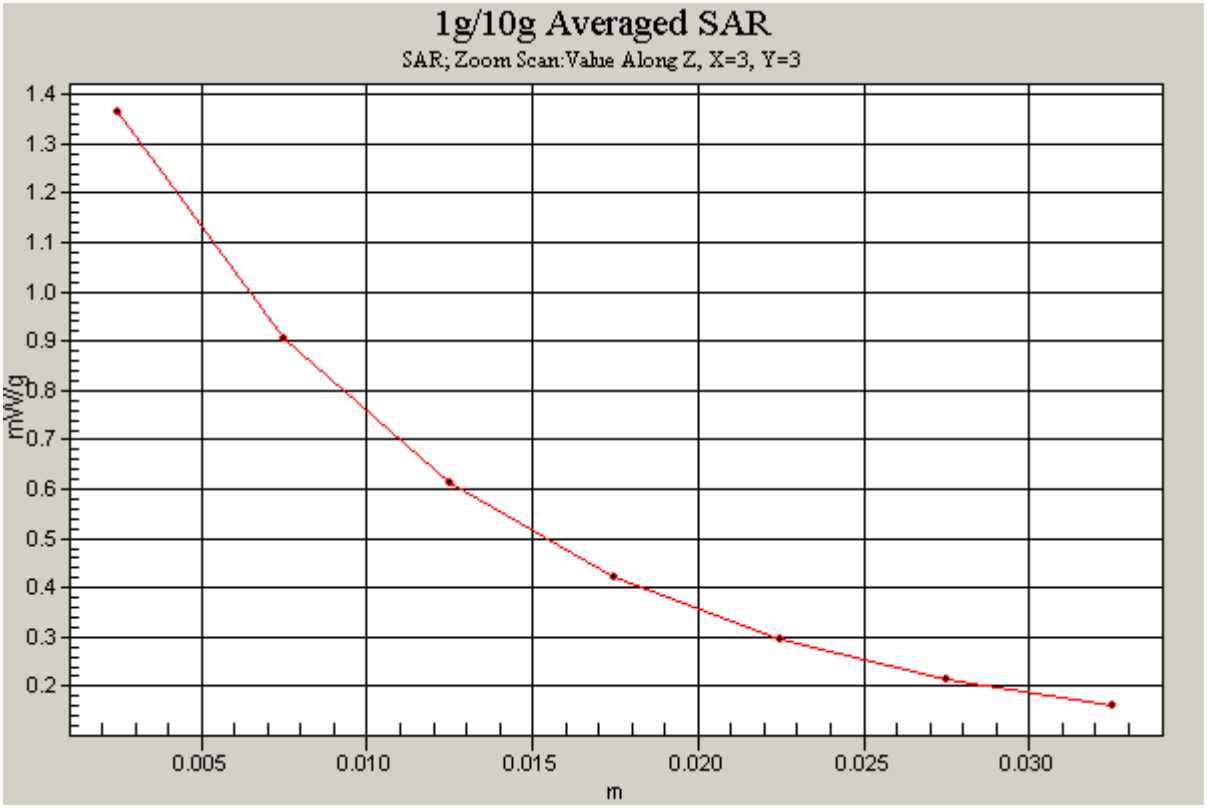



**Figure 59 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661**



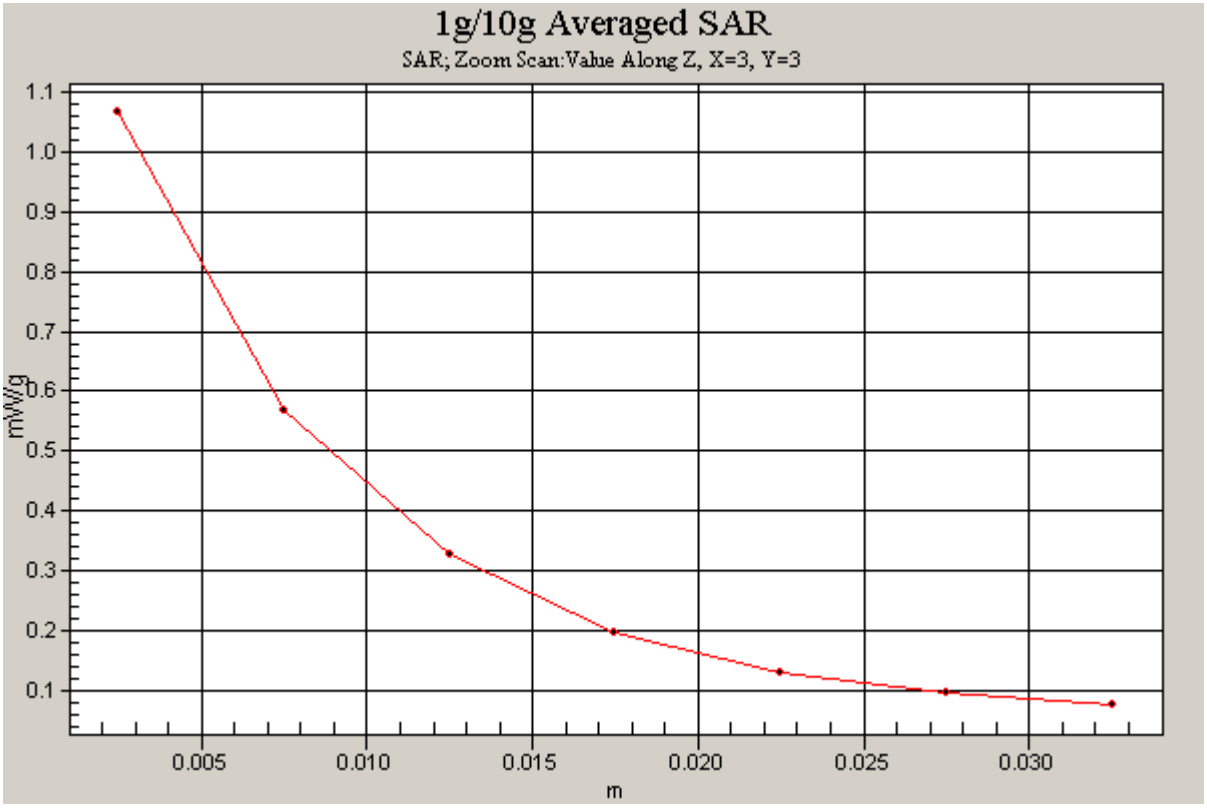




**Figure 60 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Middle Frequency**

Date/Time: 7/25/2009 3:06:45 AM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 3Middle/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.436 mW/g

**Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.755 W/kg
**SAR(1 g) = 0.311 mW/g; SAR(10 g) = 0.168 mW/g**
Maximum value of SAR (measured) = 0.445 mW/g

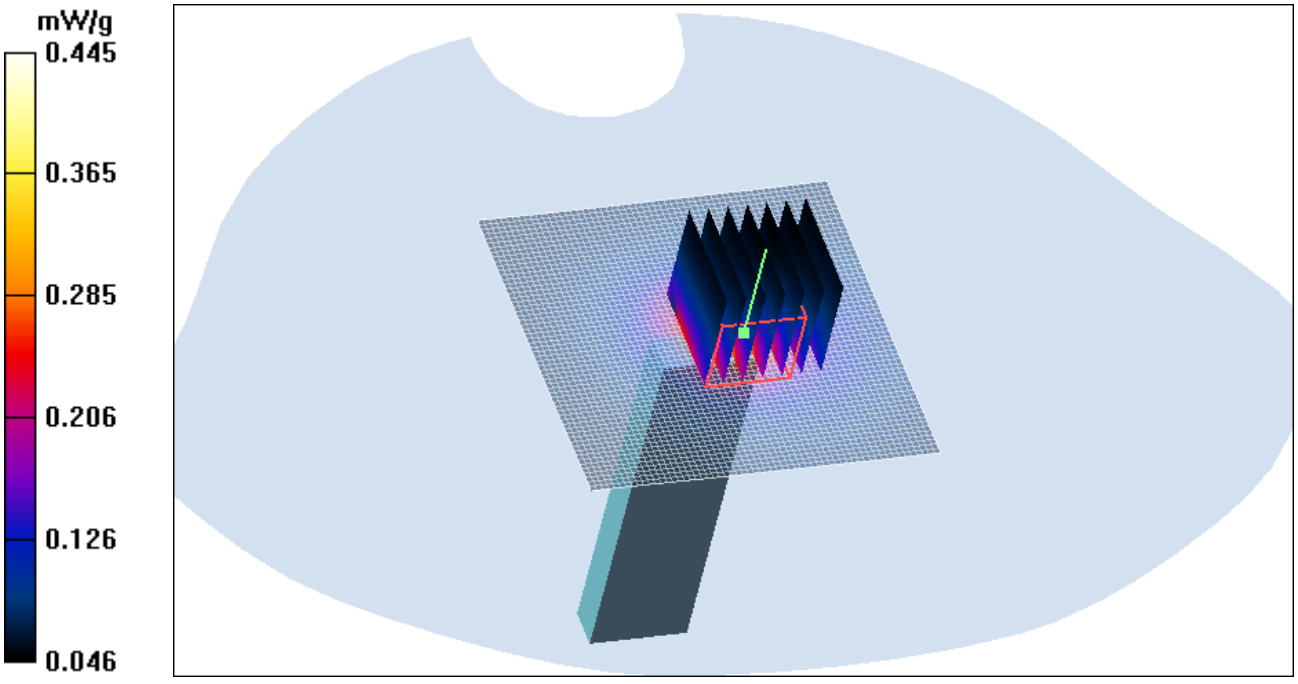



**Figure 61 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Channel 661**

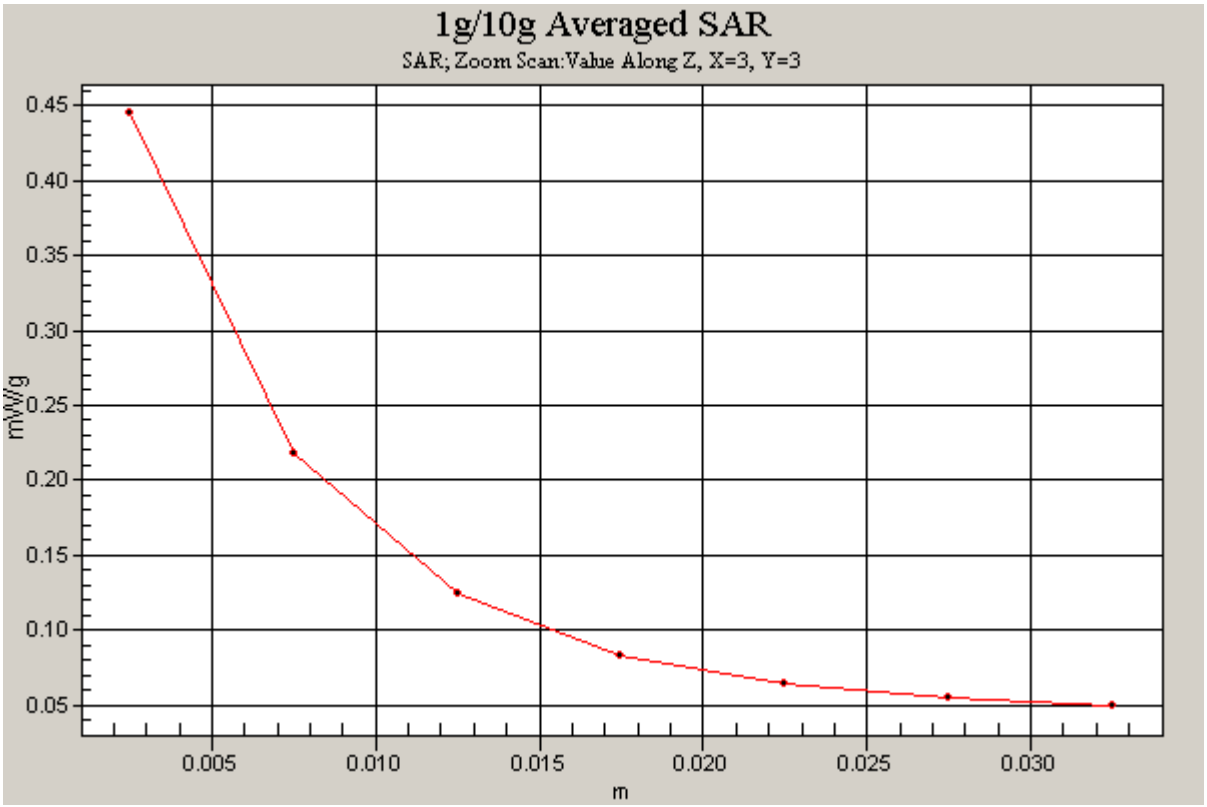



**Figure 62 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joybook R55V 180 degree Test Position 3 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 4 Middle Frequency**

Date/Time: 7/25/2009 4:54:27 AM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 4 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.735 mW/g

**Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.5 V/m; Power Drift = -0.100 dB
Peak SAR (extrapolated) = 0.934 W/kg
**SAR(1 g) = 0.567 mW/g; SAR(10 g) = 0.332 mW/g**
Maximum value of SAR (measured) = 0.724 mW/g

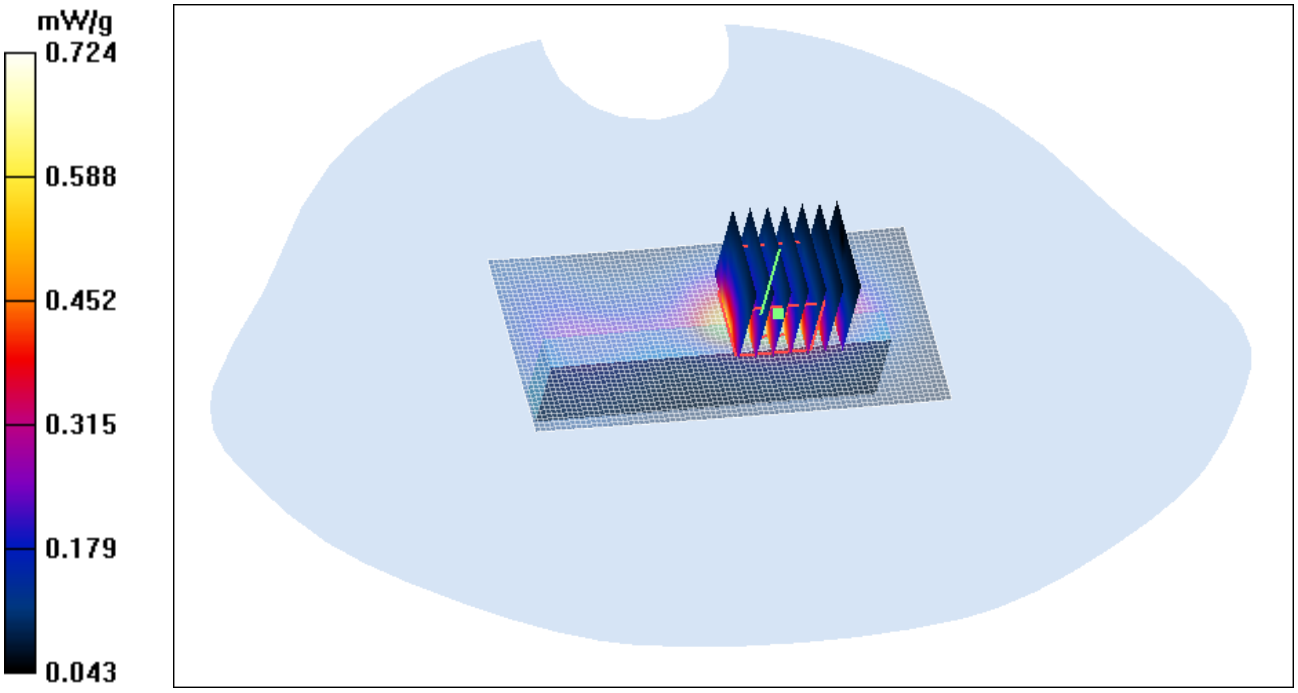



**Figure 63 GSM 1900 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 4 Channel 661**

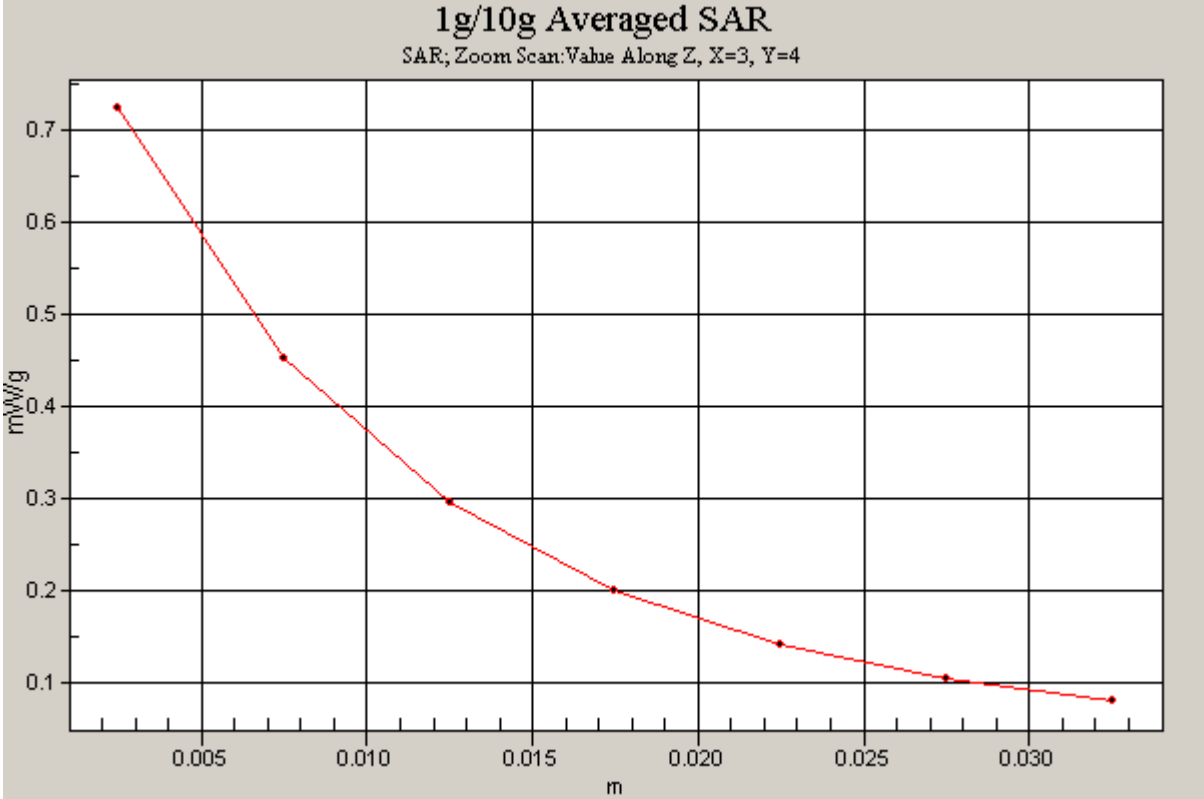



**Figure 64 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 4 Channel 661]**

**GSM 1900 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 5 Middle Frequency**

Date/Time: 7/25/2009 4:21:39 AM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 5 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.663 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 0.885 W/kg
**SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.321 mW/g**
Maximum value of SAR (measured) = 0.684 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 0.696 W/kg
**SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.250 mW/g**
Maximum value of SAR (measured) = 0.538 mW/g

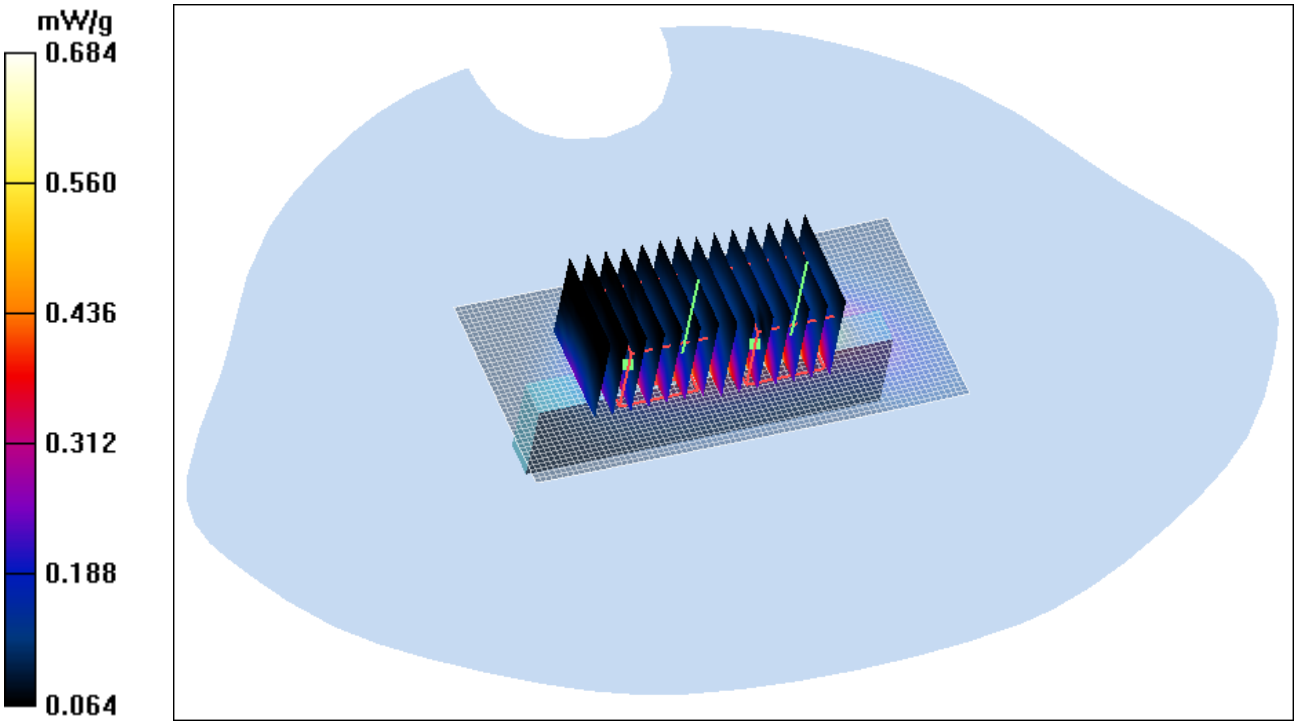
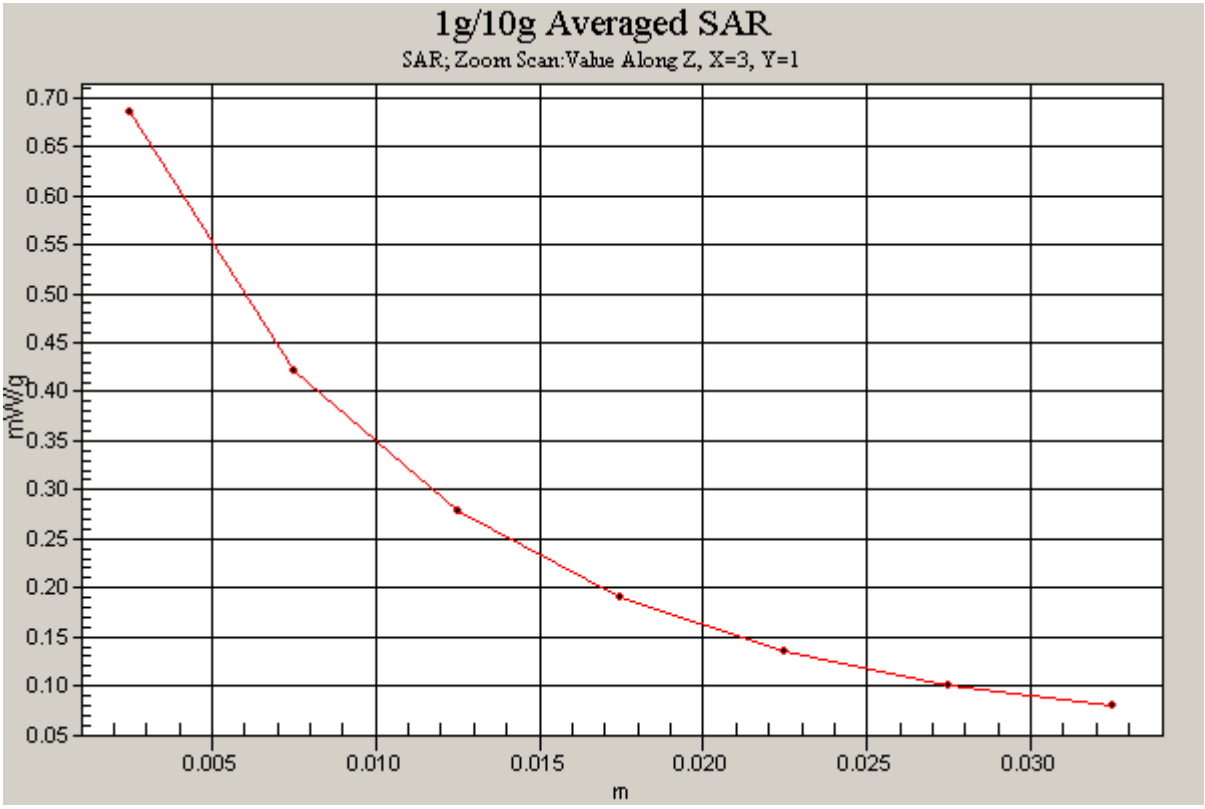



**Figure 65 GSM 1900 GPRS (2 timeslots in uplink) with IBM T61180 degree Test Position 5 Channel 661**



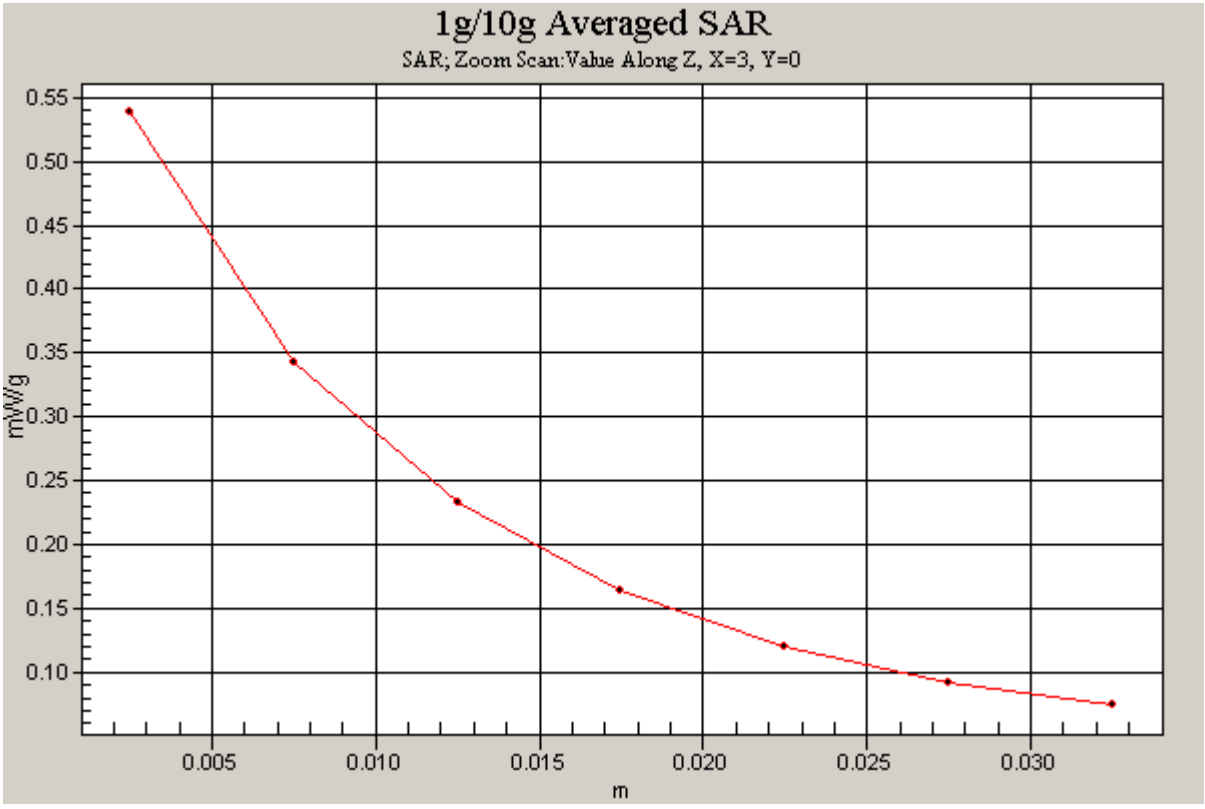




**Figure 66 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with IBM T61 180 degree Test Position 5 Channel 661]**

**GSM 1900 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 5:38:34 AM
Communication System: PCS 1900+EGPRS(4Up); Frequency: 1880 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.33 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 1.43 W/kg
**SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.540 mW/g**
Maximum value of SAR (measured) = 1.13 mW/g

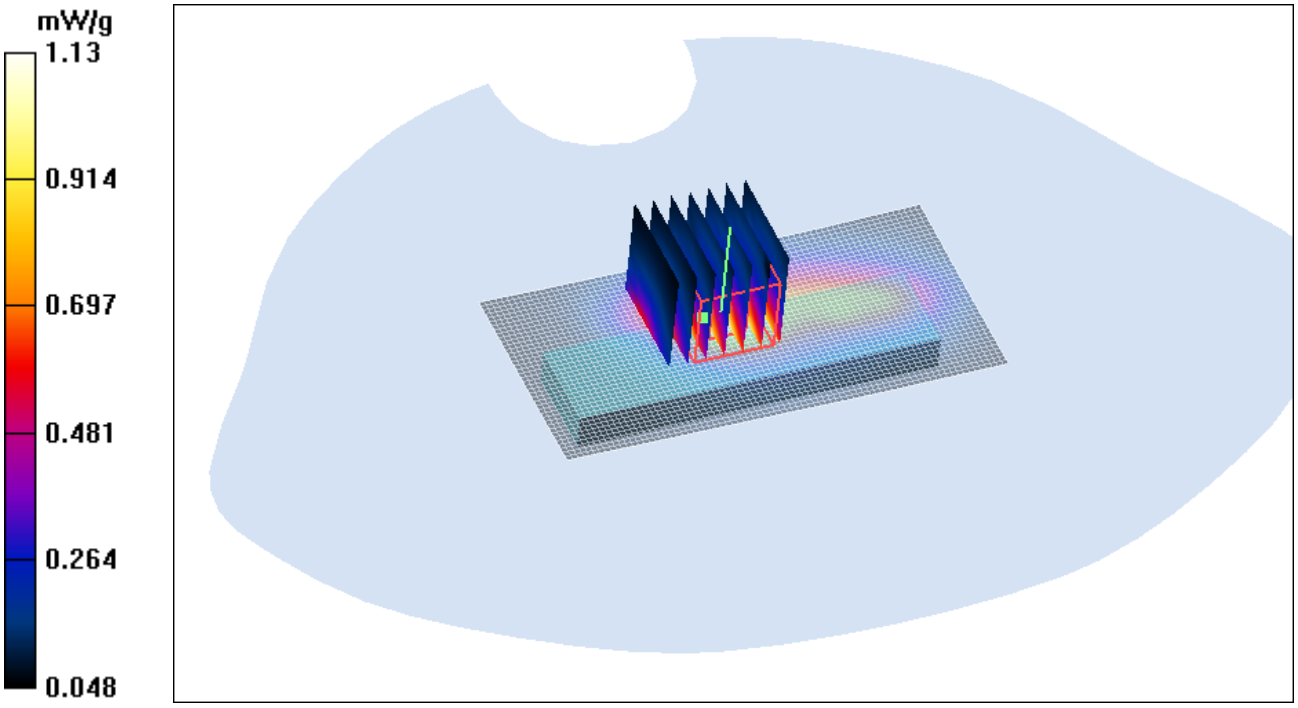



**Figure 67 GSM 1900 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661**

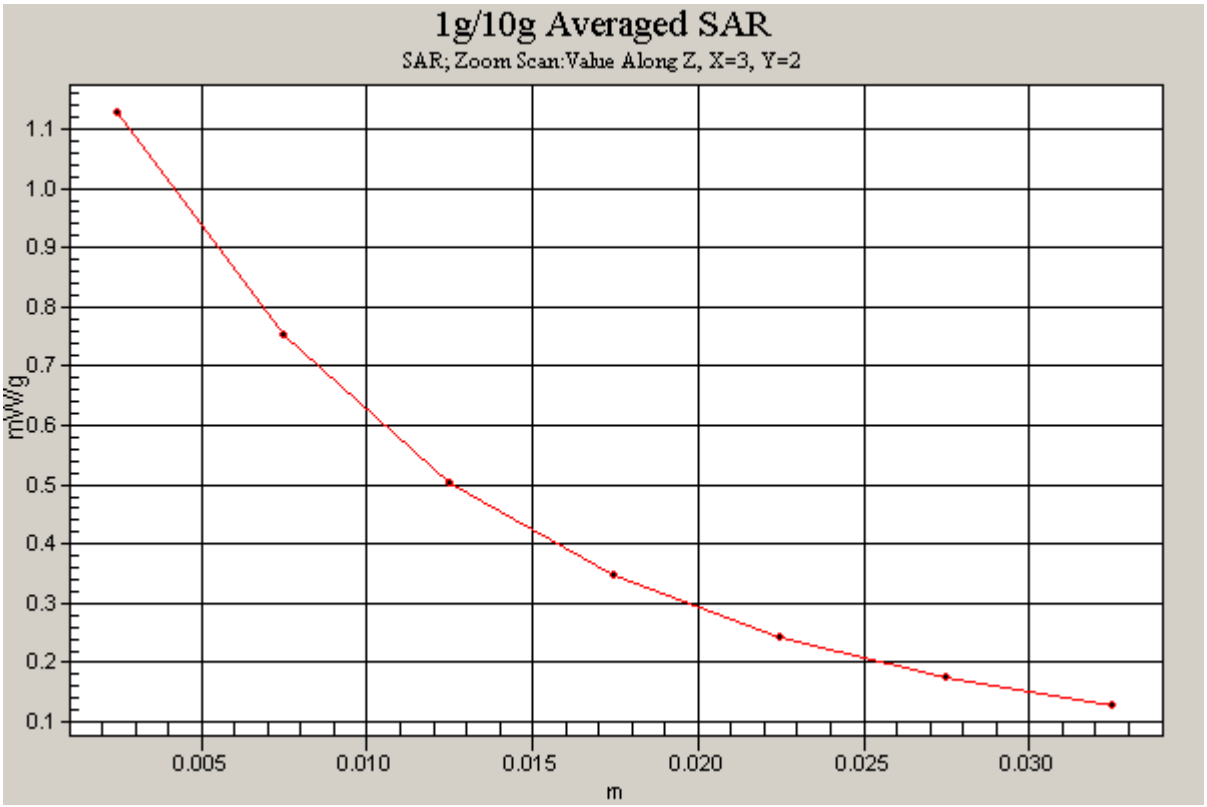



**Figure 68 Z-Scan at power reference point [GSM 1900 EGPRS (4 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661]**

**GSM 1900 EGPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 5:55:27 AM
Communication System: PCS 1900+EGPRS(3Up); Frequency: 1880 MHz;Duty Cycle: 1:2.67
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.26 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.7 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 1.45 W/kg
**SAR(1 g) = 0.920 mW/g; SAR(10 g) = 0.540 mW/g**
Maximum value of SAR (measured) = 1.12 mW/g

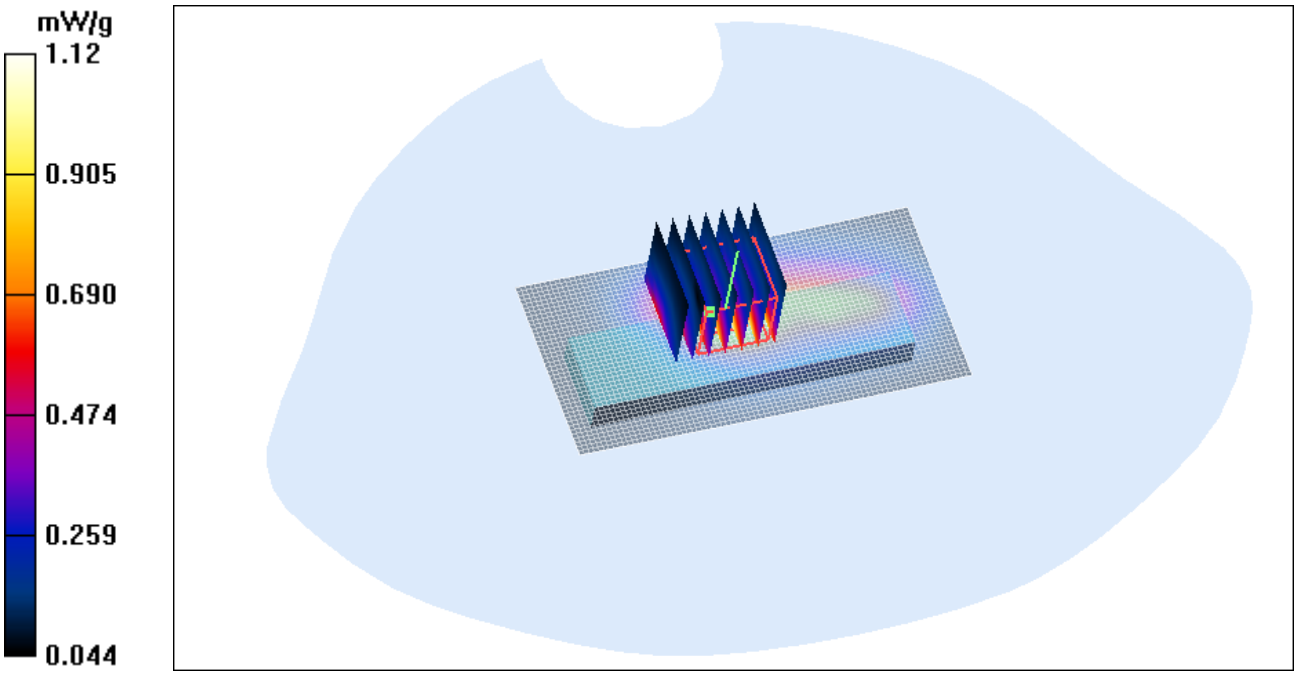



**Figure 69 GSM 1900 EGPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661**

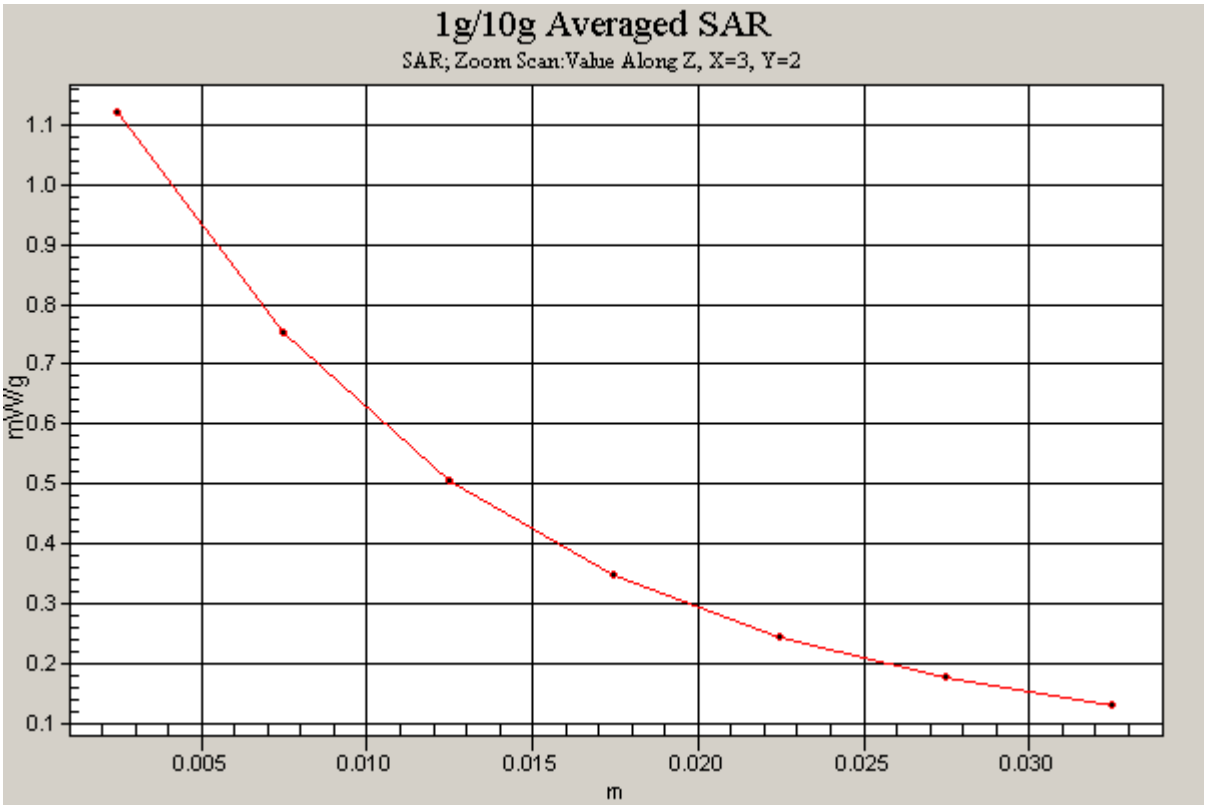



**Figure 70 Z-Scan at power reference point [EGSM 1900 GPRS (3 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661]**

**GSM 1900 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 6:12:04 AM
Communication System: PCS 1900+EGPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.24 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 1.36 W/kg
**SAR(1 g) = 0.889 mW/g; SAR(10 g) = 0.535 mW/g**
Maximum value of SAR (measured) = 1.10 mW/g

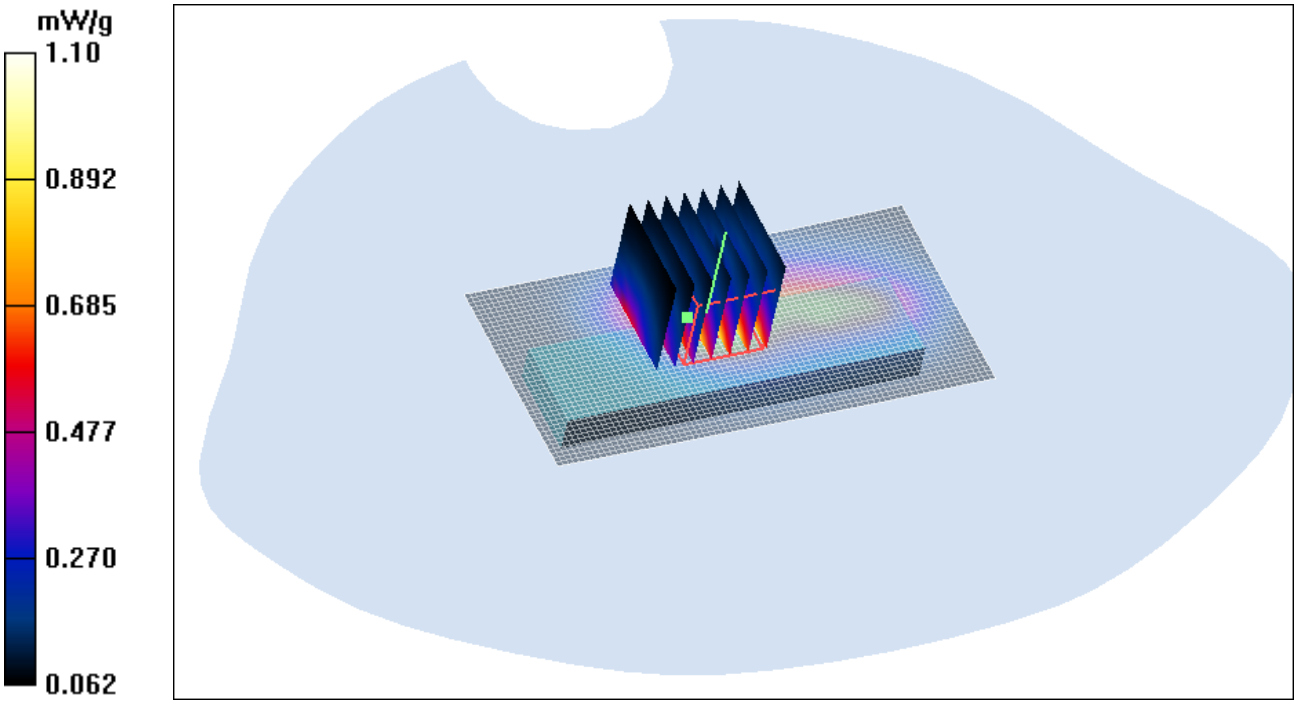



**Figure 71 GSM 1900 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2Channel 661**

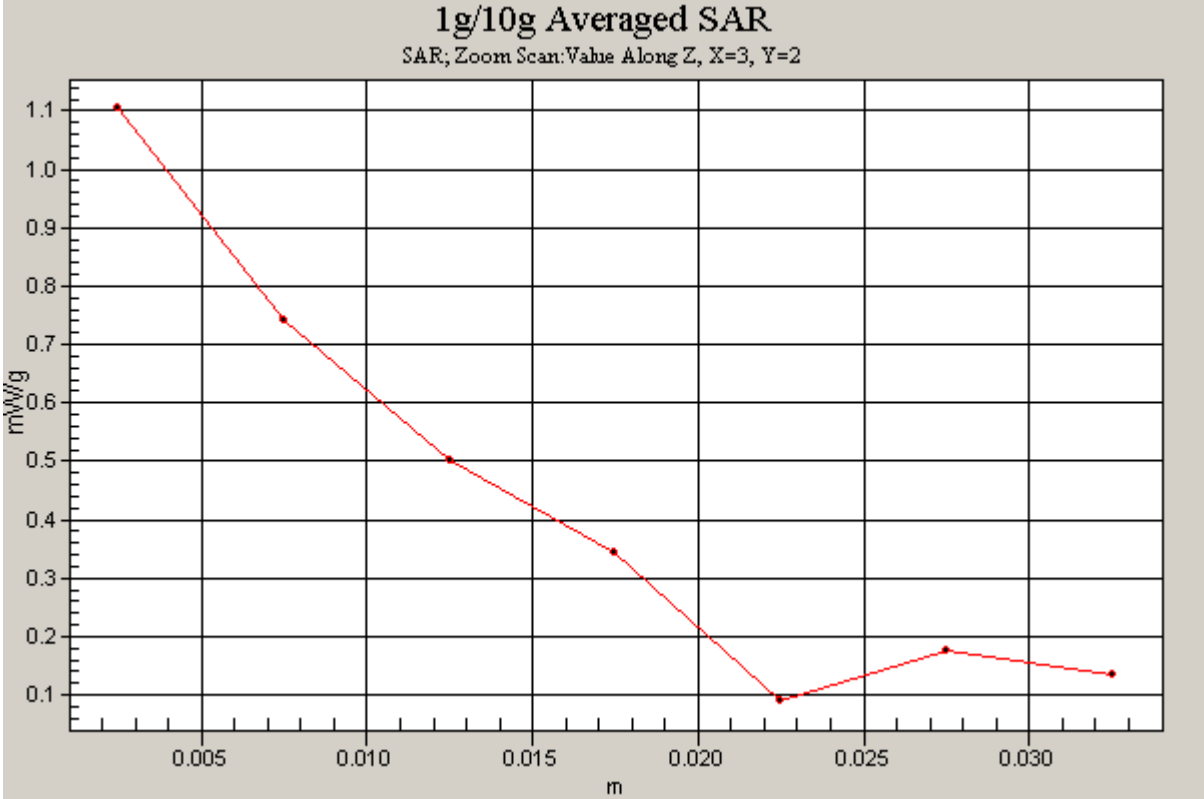



**Figure 72 Z-Scan at power reference point [GSM 1900 EGPRS (2 timeslots in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661]**

**GSM 1900 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 6:28:57 AM
Communication System: PCS 1900+EGPRS(1Up); Frequency: 1880 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.02 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.7 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 1.18 W/kg
**SAR(1 g) = 0.772 mW/g; SAR(10 g) = 0.468 mW/g**
Maximum value of SAR (measured) = 0.954 mW/g

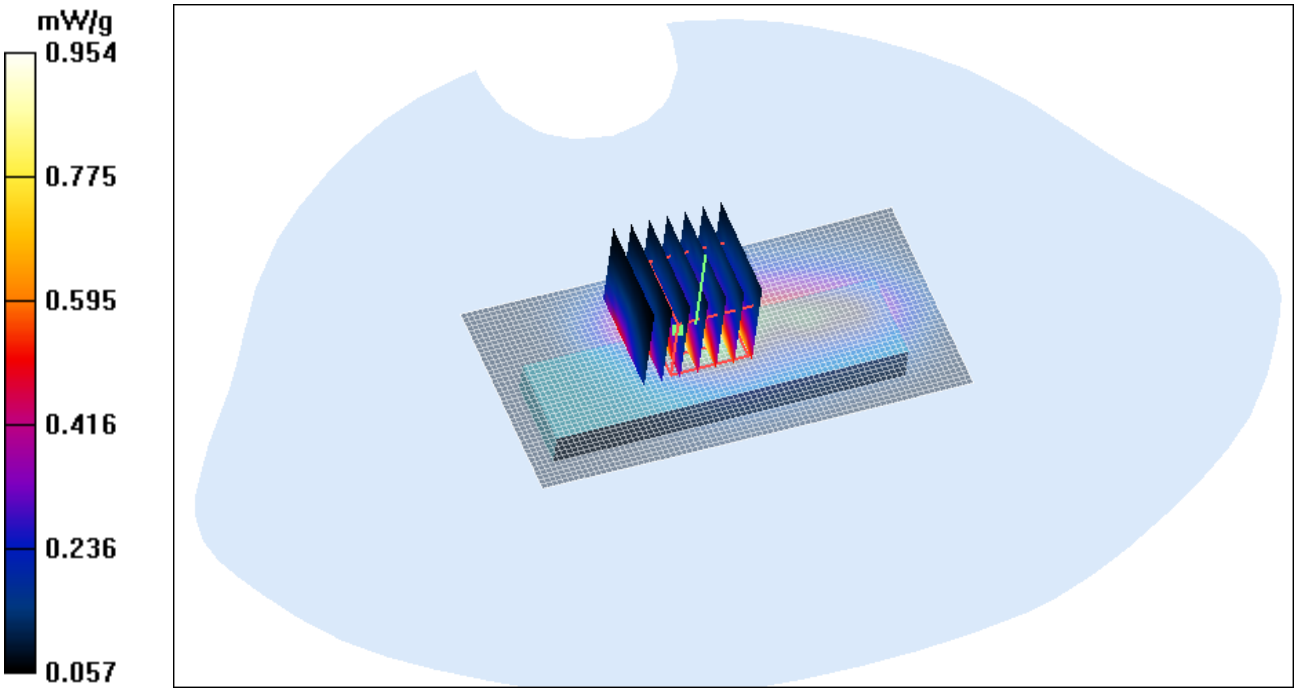



**Figure 73 GSM 1900 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2Channel 661**

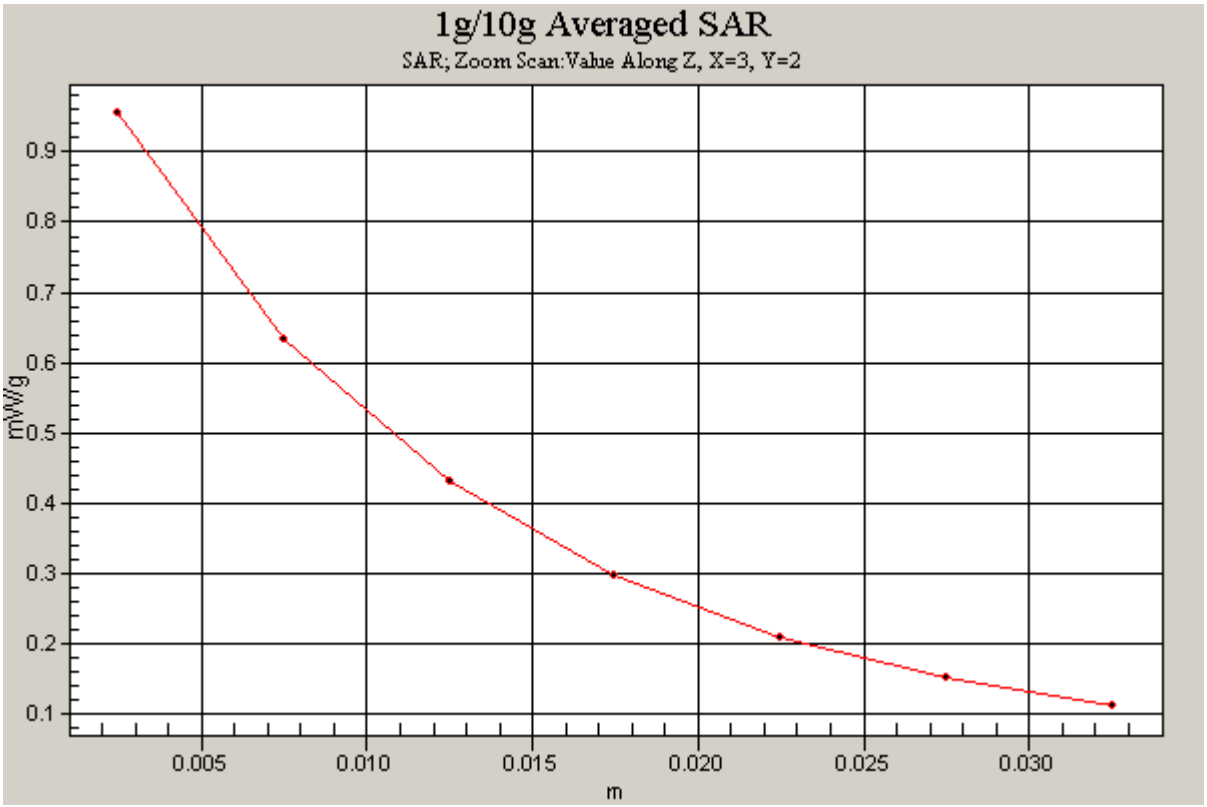



**Figure 74 Z-Scan at power reference point [GSM 1900 EGPRS (1 timeslot in uplink) with BenQ Joybook R55V 270 degree Test Position 2 Channel 661]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 High Frequency**

Date/Time: 7/25/2009 12:45:35 AM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; $\sigma$ = 1.54 mho/m; $\varepsilon_r$ = 52.6; $\rho$ = 1000 kg/$m^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.37 mW/g
**Test Position 1High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.0 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.70 W/kg
**SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.603 mW/g**
Maximum value of SAR (measured) = 1.30 mW/g
**Test Position 1 High/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.0 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.17 W/kg
**SAR(1 g) = 0.684 mW/g; SAR(10 g) = 0.385 mW/g**
Maximum value of SAR (measured) = 0.895 mW/g

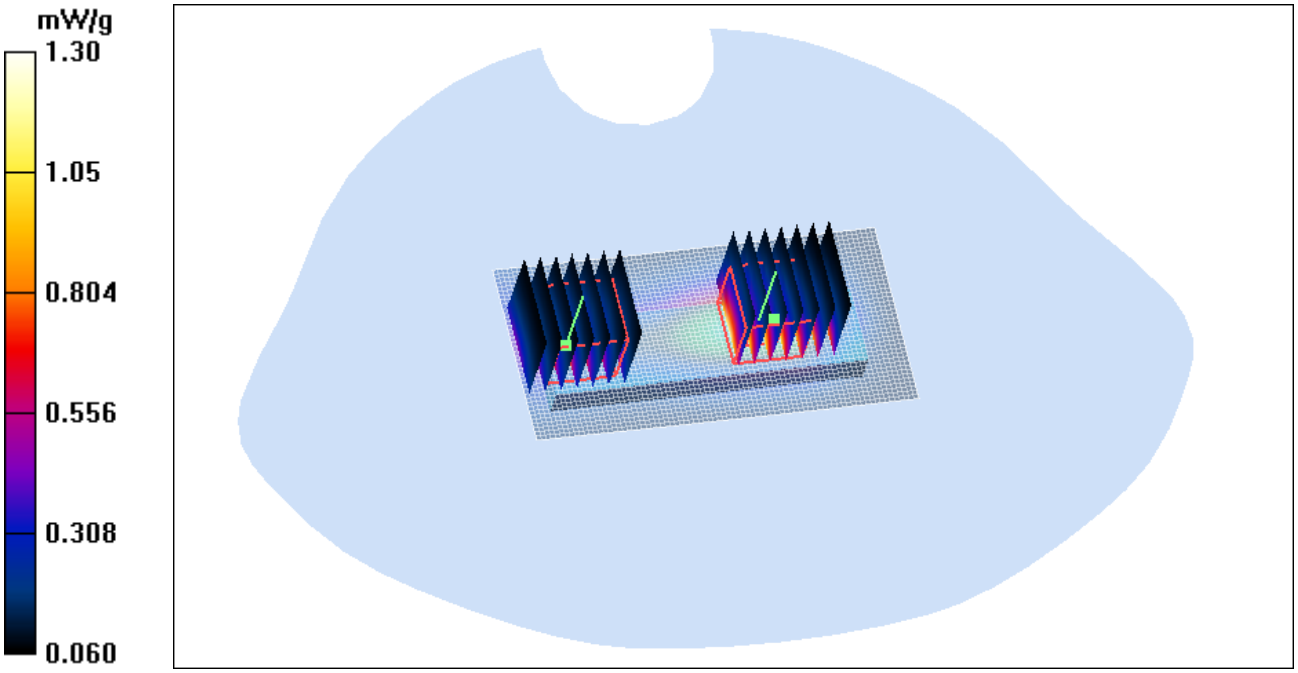
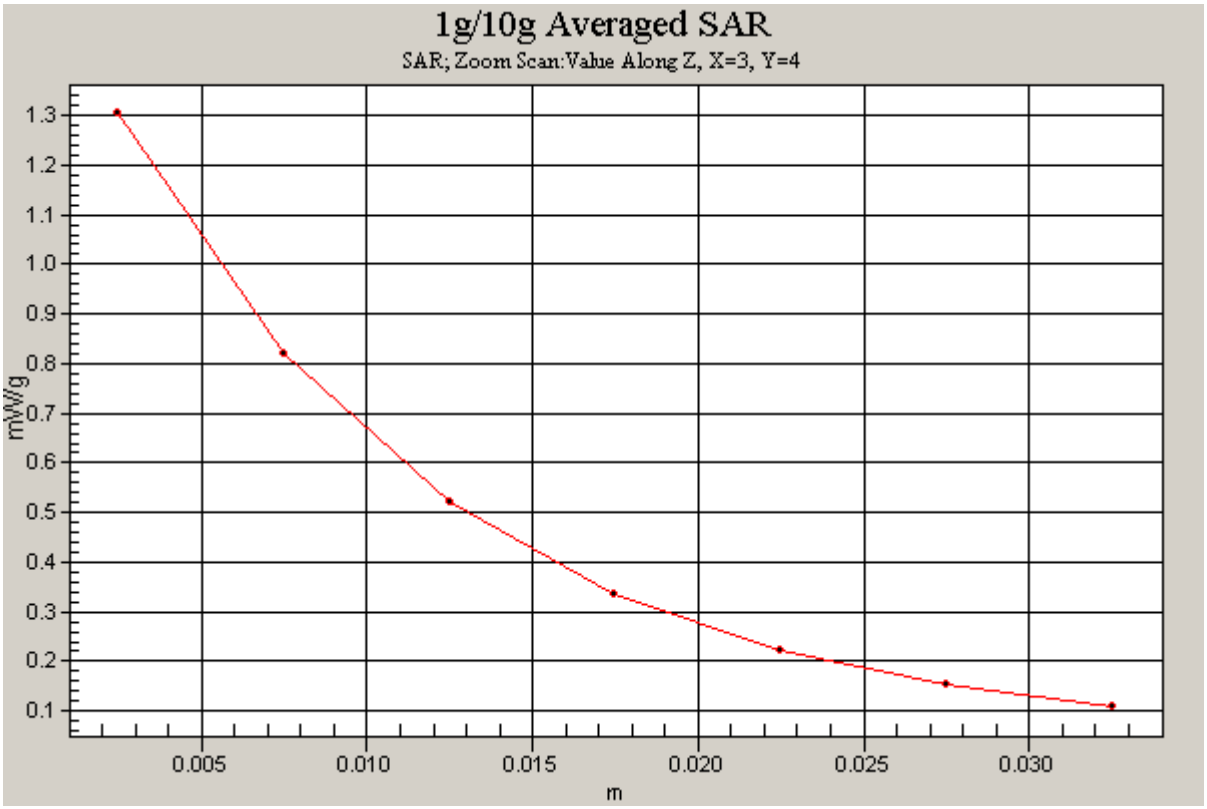



**Figure 75 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1Channel 9538**



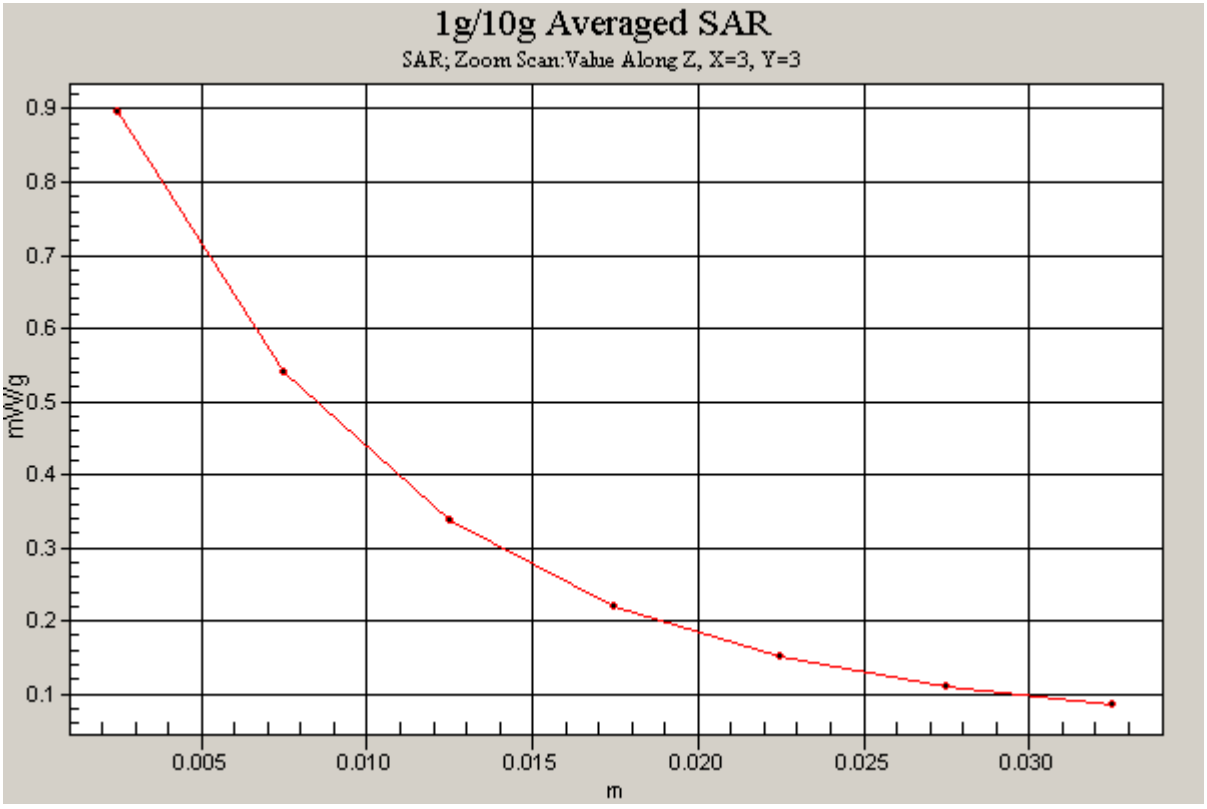




**Figure 76 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Channel 9538]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Middle Frequency**

Date/Time: 7/25/2009 12:16:47 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.43 mW/g
**Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.0 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 1.77 W/kg
**SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.629 mW/g**
Maximum value of SAR (measured) = 1.36 mW/g
**Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.0 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 1.27 W/kg
**SAR(1 g) = 0.745 mW/g; SAR(10 g) = 0.422 mW/g**
Maximum value of SAR (measured) = 0.971 mW/g

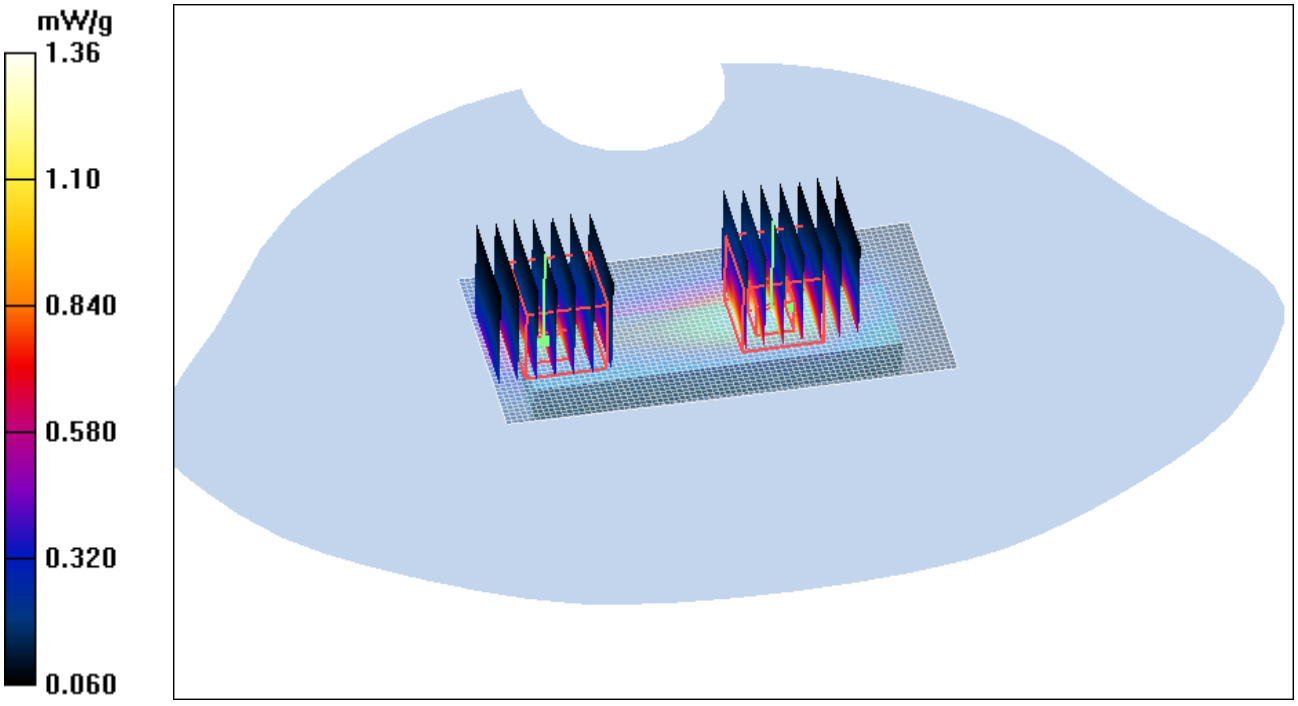
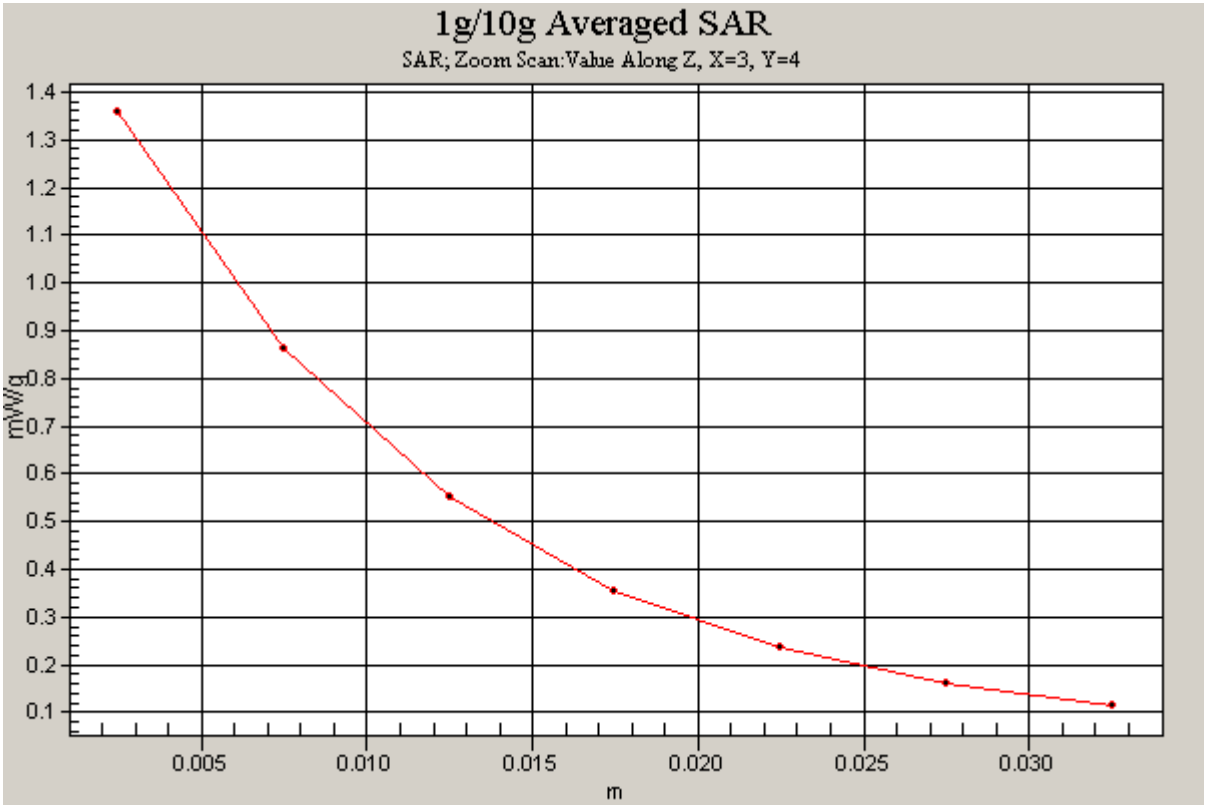



**Figure 77 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Channel 9400**



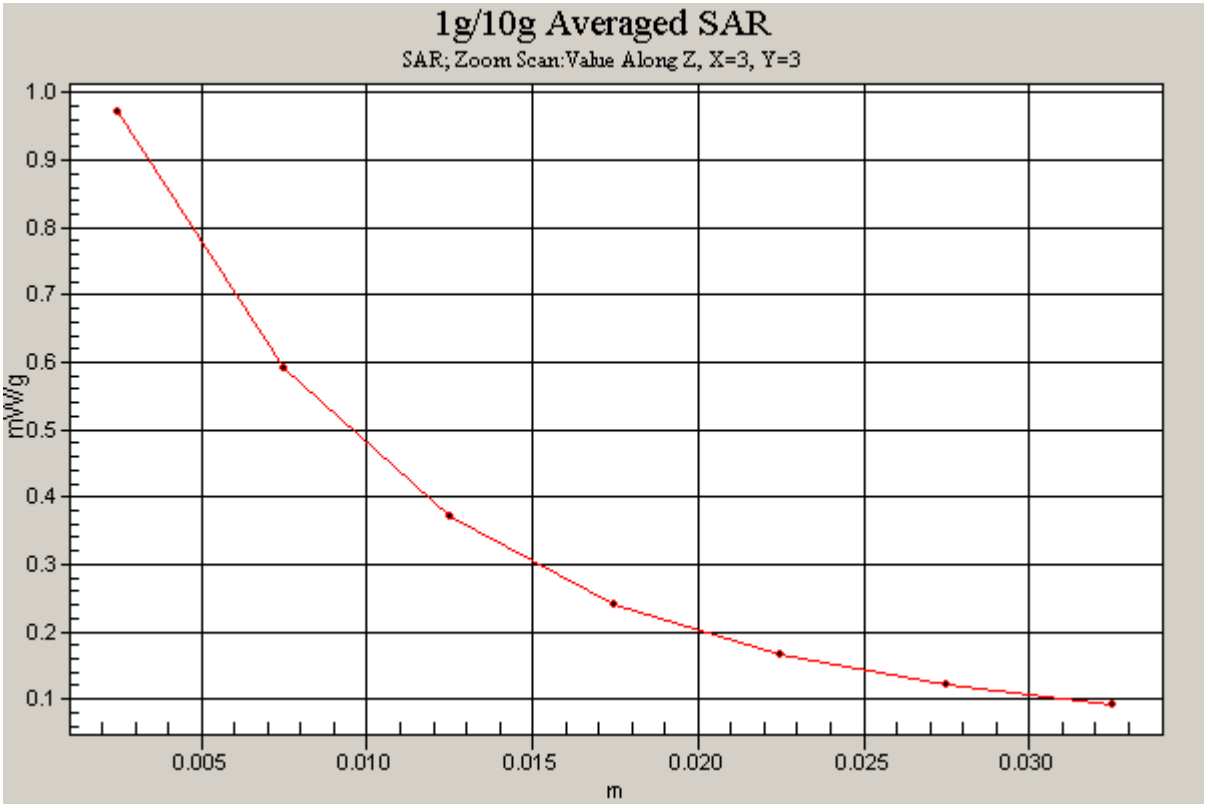




**Figure 78 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Channel 9400]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Low Frequency**

Date/Time: 7/25/2009 1:14:00 AM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 52.9; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1 Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.25 mW/g
**Test Position 1 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.4 V/m; Power Drift = 0.138 dB
Peak SAR (extrapolated) = 1.58 W/kg
**SAR(1 g) = 0.972 mW/g; SAR(10 g) = 0.569 mW/g**
Maximum value of SAR (measured) = 1.21 mW/g
**Test Position 1 Low/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.4 V/m; Power Drift = 0.138 dB
Peak SAR (extrapolated) = 1.17 W/kg
**SAR(1 g) = 0.695 mW/g; SAR(10 g) = 0.399 mW/g**
Maximum value of SAR (measured) = 0.902 mW/g

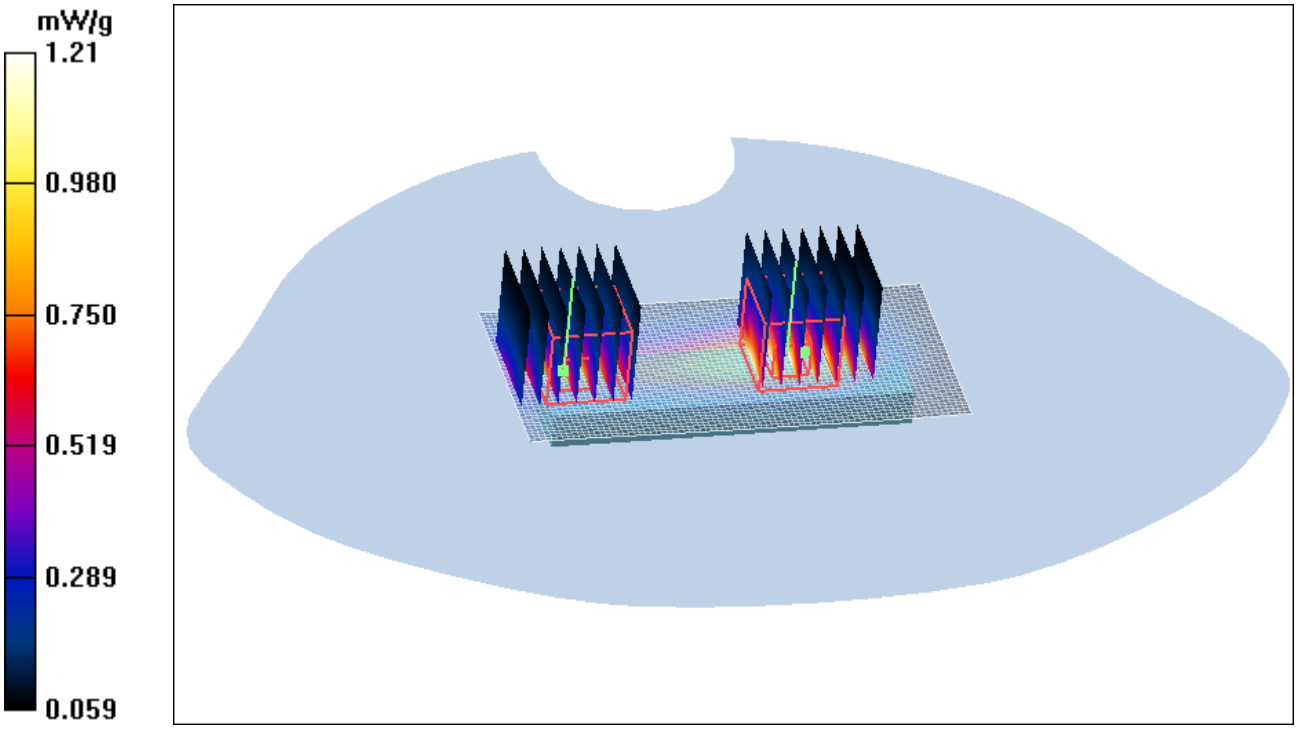
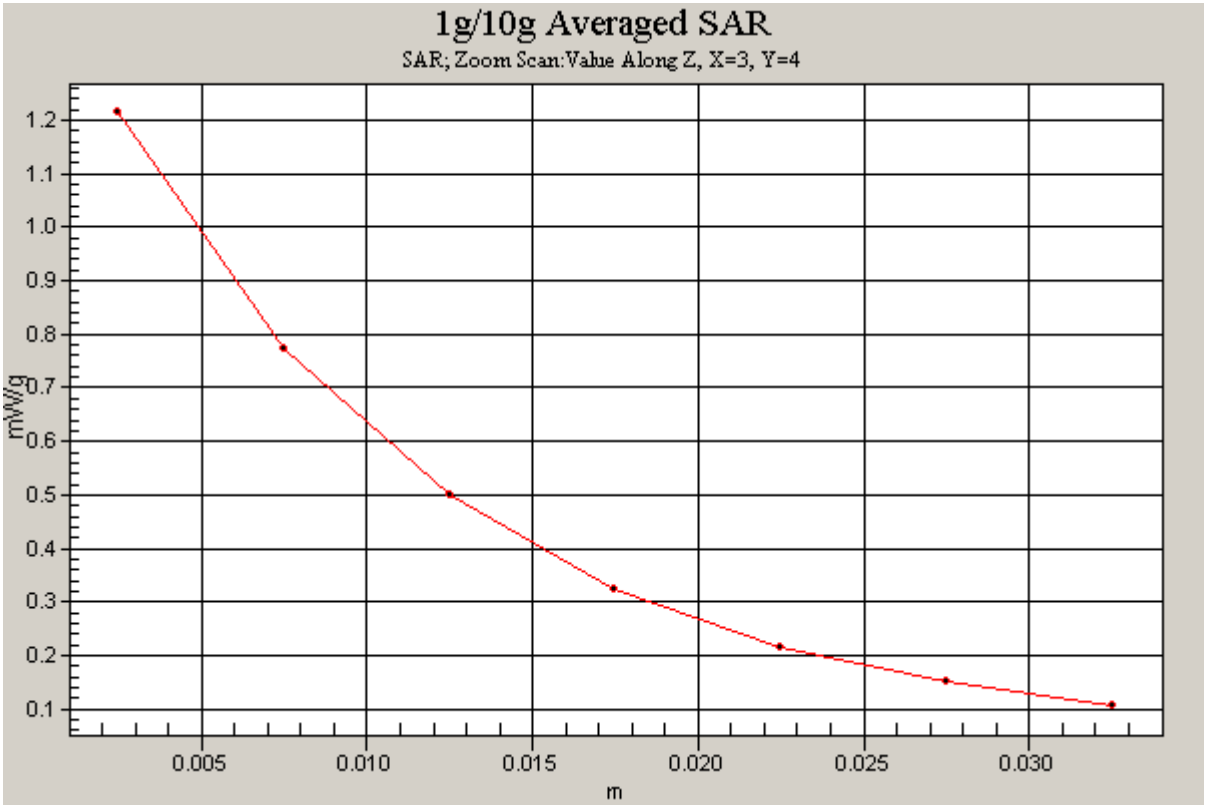



**Figure 79 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Channel 9262**



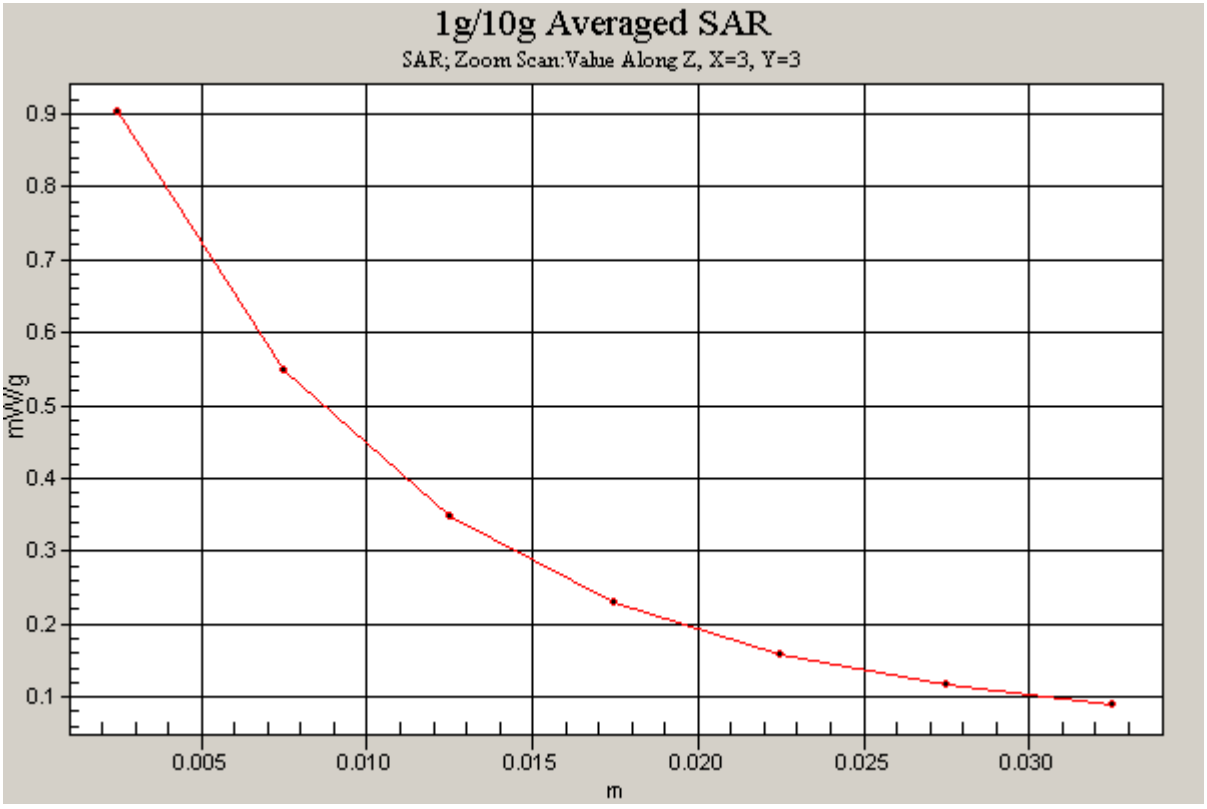




**Figure 80 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 1 Channel 9262]**

**WCDMA Band II with BenQ Joybook R55V 90 degree Test Position 1 Middle Frequency**

Date/Time: 7/25/2009 1:54:52 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 1Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.52 mW/g
**Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.6 V/m; Power Drift = 0.169 dB
Peak SAR (extrapolated) = 1.78 W/kg
**SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.682 mW/g**
Maximum value of SAR (measured) = 1.42 mW/g
**Test Position 1Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.6 V/m; Power Drift = 0.169 dB
Peak SAR (extrapolated) = 1.16 W/kg
**SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.385 mW/g**
Maximum value of SAR (measured) = 0.813 mW/g

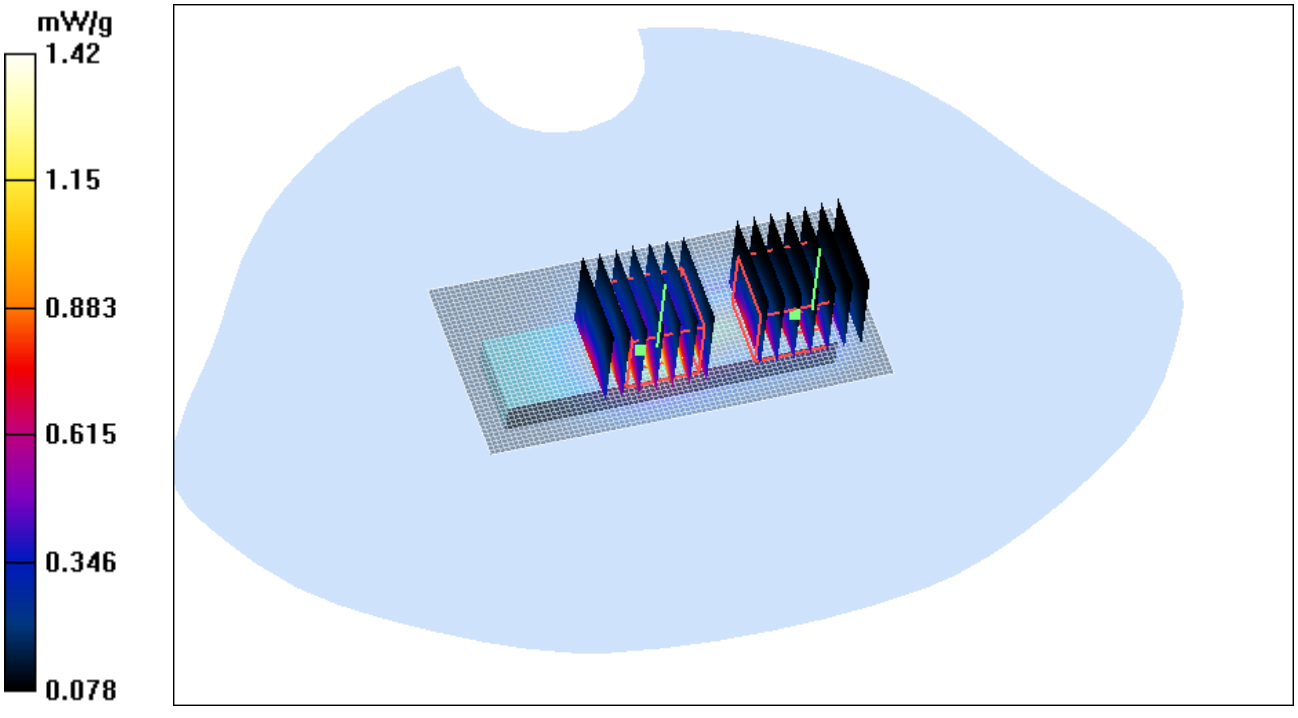
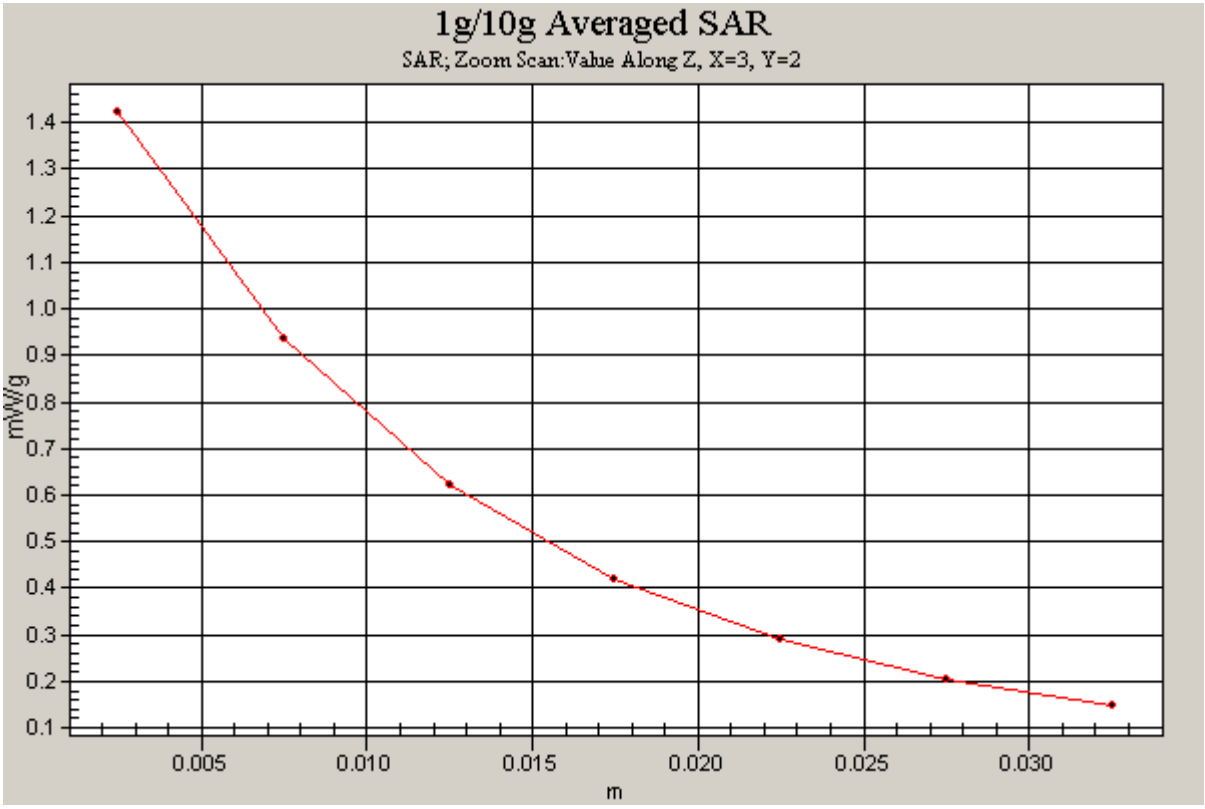



**Figure 81 WCDMA Band II with BenQ Joybook R55V 90 degree Test Position 1 Channel 9400**



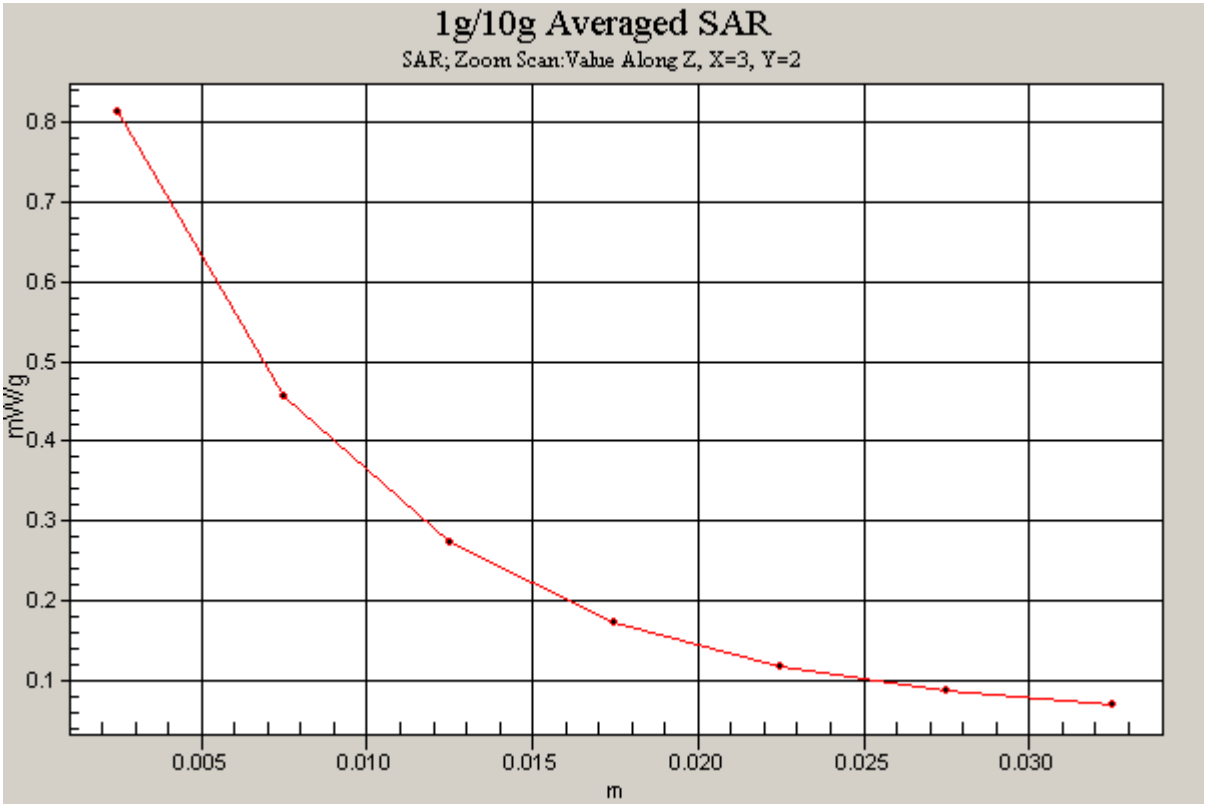




**Figure 82 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 90 degree Test Position 1 Channel 9400]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 High Frequency**

Date/Time: 7/25/2009 9:24:17 PM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; $\sigma$ = 1.54 mho/m; $\varepsilon_r$ = 52.6; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 High/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.36 mW/g

**Test Position 2 High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 1.60 W/kg
**SAR(1 g) = 0.876 mW/g; SAR(10 g) = 0.505 mW/g**
Maximum value of SAR (measured) = 1.15 mW/g

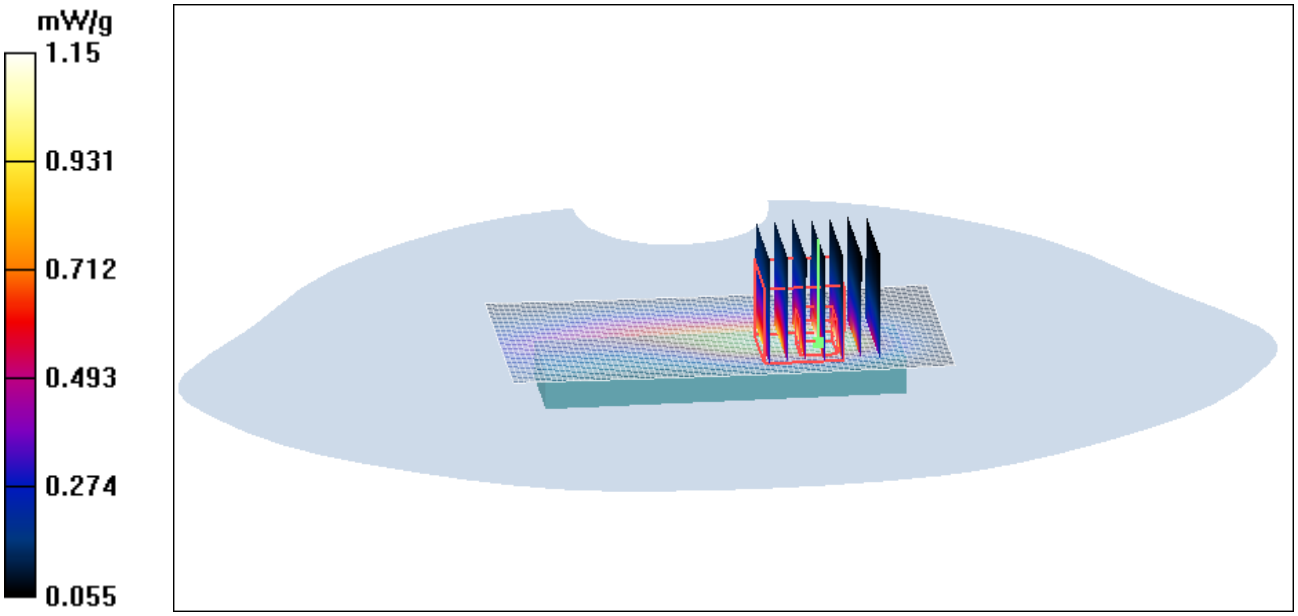



**Figure 83 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9538**

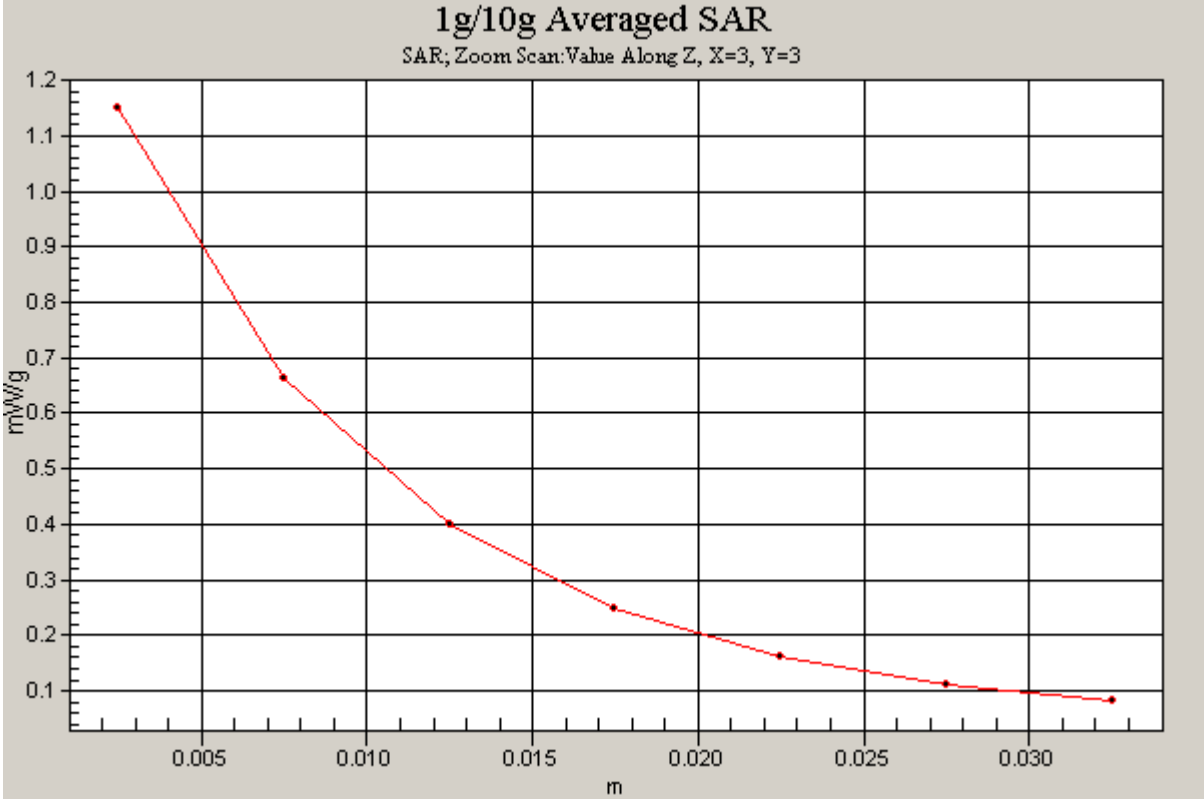



**Figure 84 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9538]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 9:05:01 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.52 mW/g

**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.9 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.96 W/kg
**SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.607 mW/g**
Maximum value of SAR (measured) = 1.43 mW/g

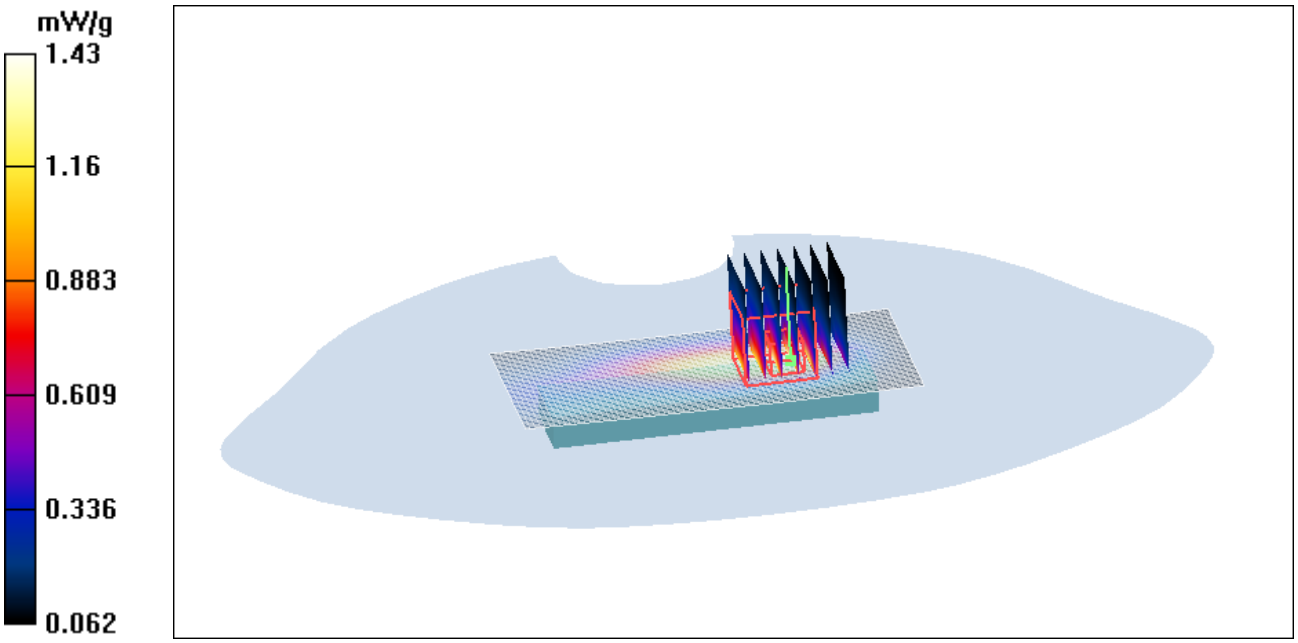



**Figure 85 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9400**

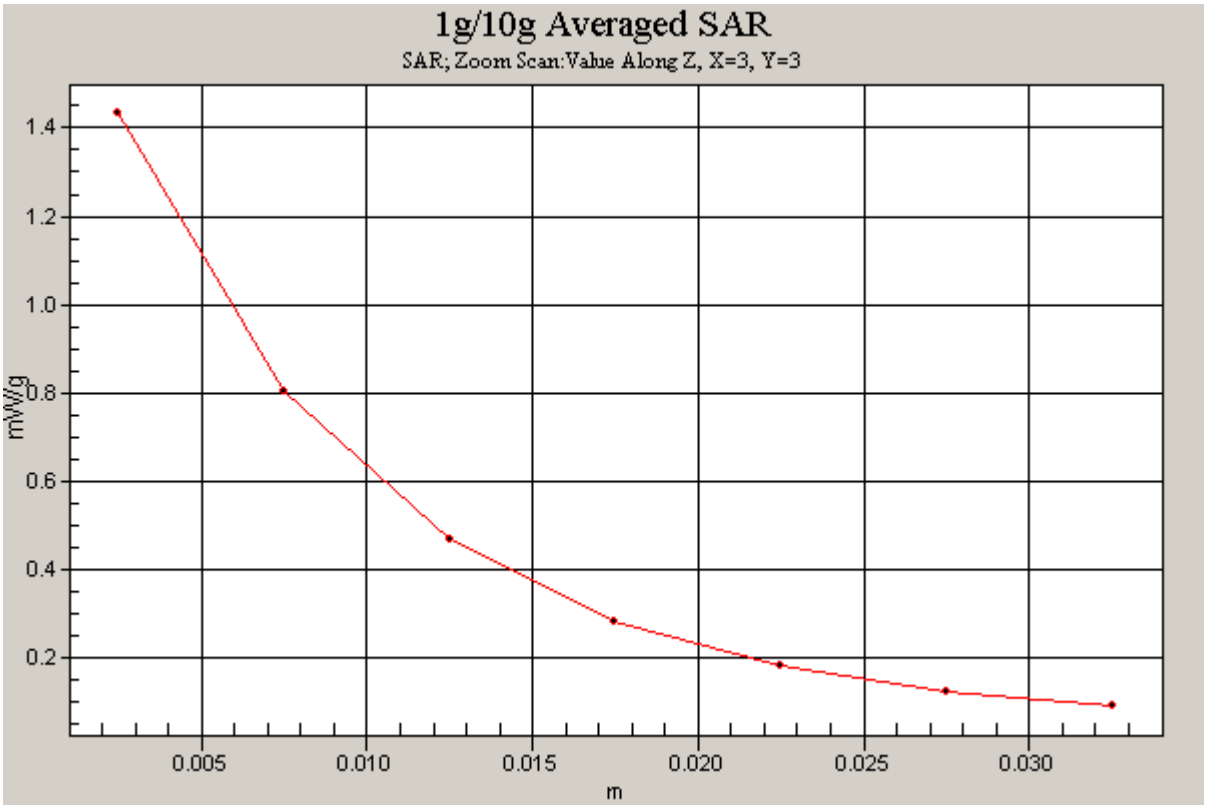



**Figure 86 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9400]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Low Frequency**

Date/Time: 7/25/2009 9:41:07 PM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 52.9; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 2Low/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g

**Test Position 2 Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.1 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 1.47 W/kg
**SAR(1 g) = 0.824 mW/g; SAR(10 g) = 0.481 mW/g**
Maximum value of SAR (measured) = 1.08 mW/g

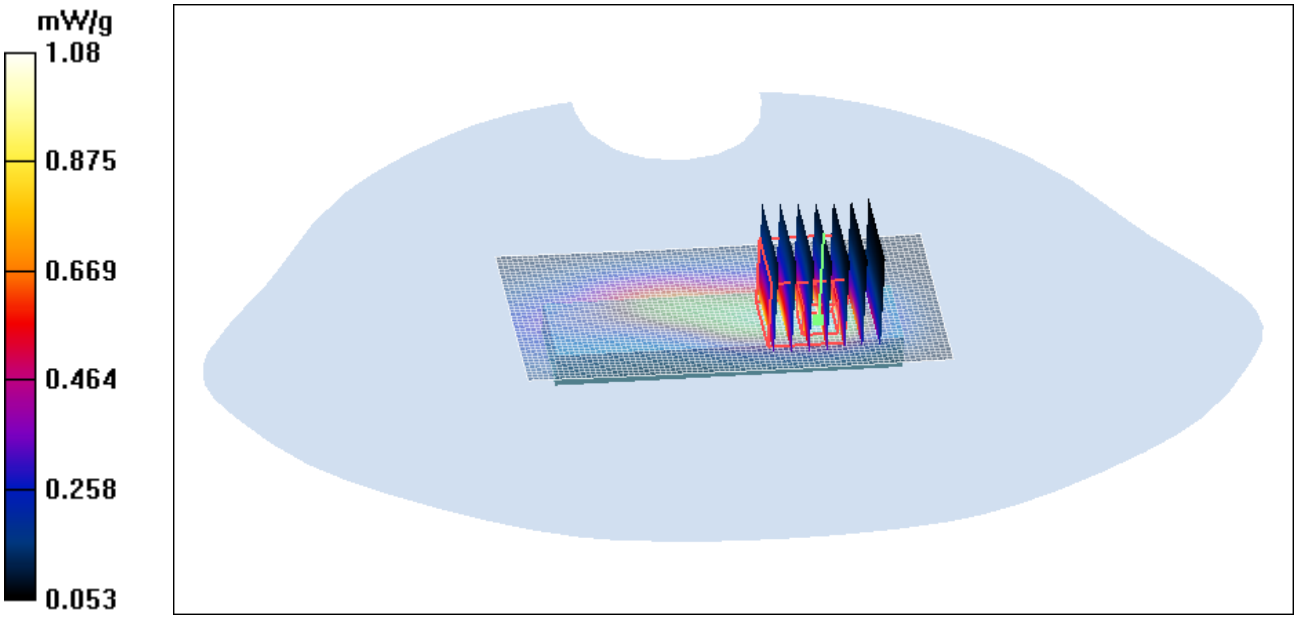



**Figure 87 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9262**

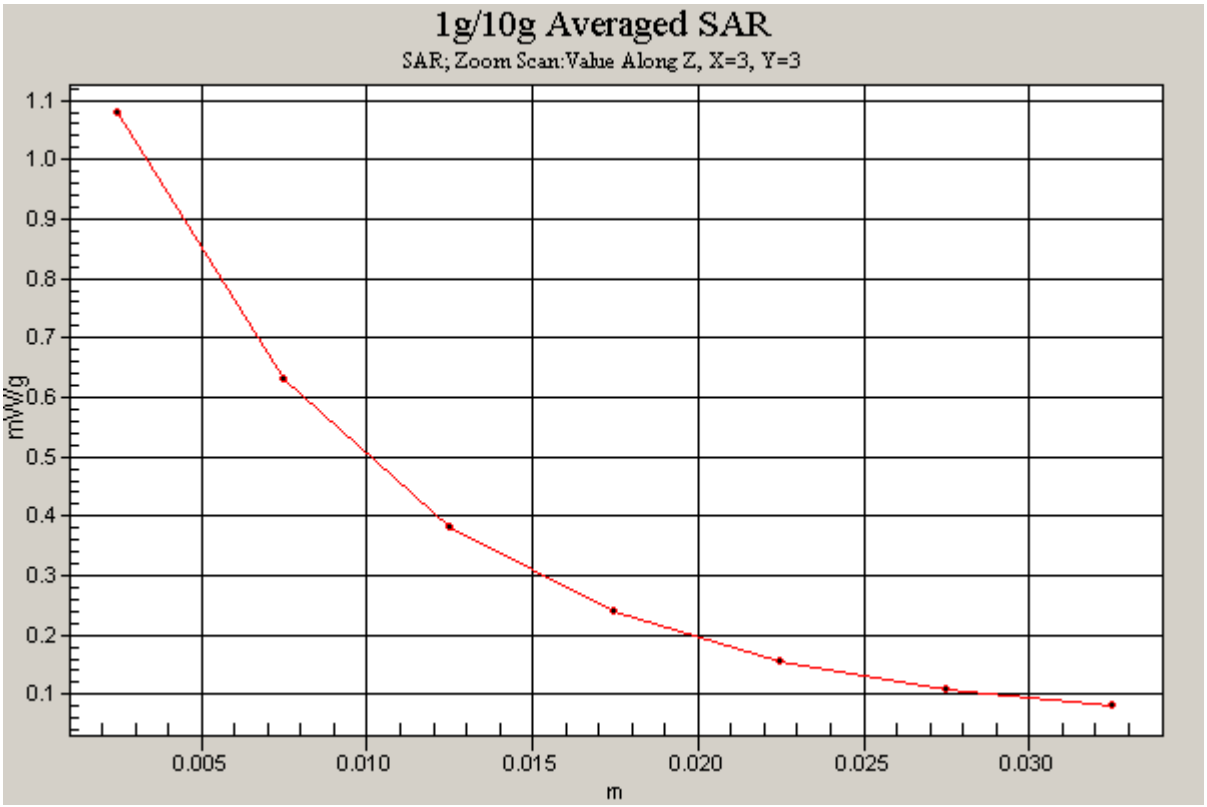



**Figure 88 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 2 Channel 9262]**

**WCDMA Band II with BenQ Joybook R55V 270 degree Test Position 2 Middle Frequency**

Date/Time: 7/25/2009 8:52:58 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 2 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.53 mW/g
**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 1.78 W/kg
**SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.700 mW/g**
Maximum value of SAR (measured) = 1.45 mW/g
**Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 1.46 W/kg
**SAR(1 g) = 0.742 mW/g; SAR(10 g) = 0.391 mW/g**
Maximum value of SAR (measured) = 0.994 mW/g

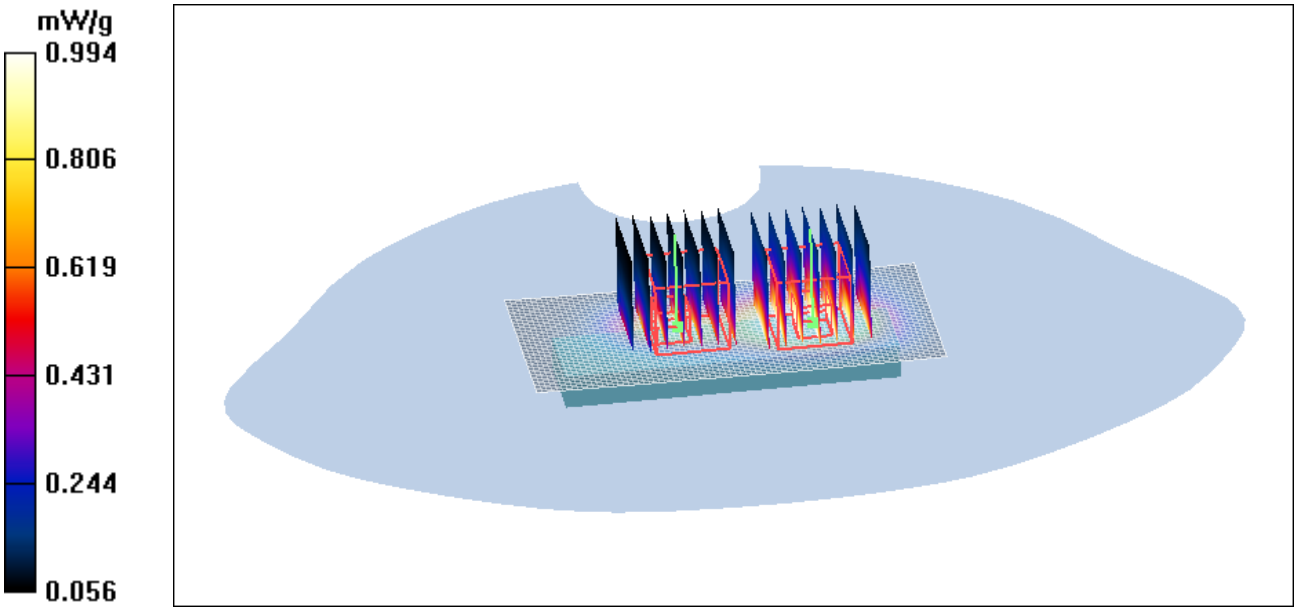
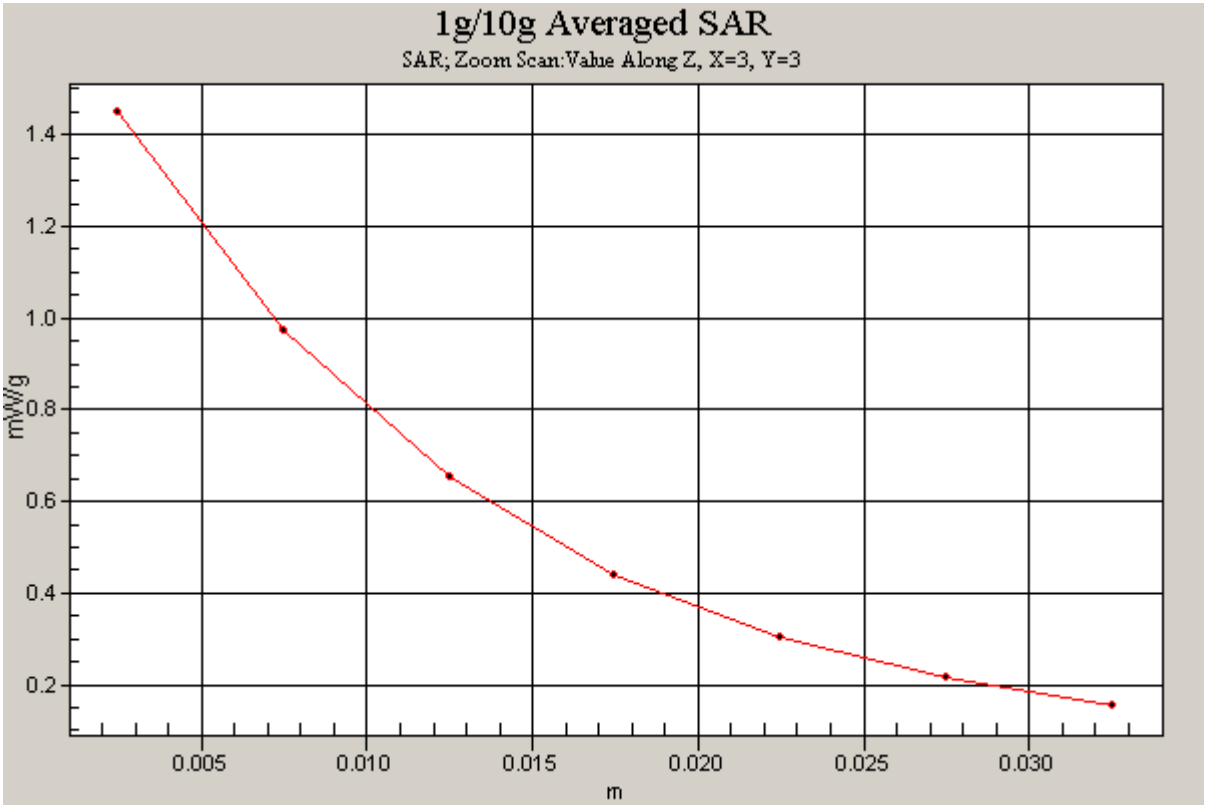



**Figure 89 WCDMA Band II with BenQ Joybook R55V 270 degree Test Position 2 Channel 9400**



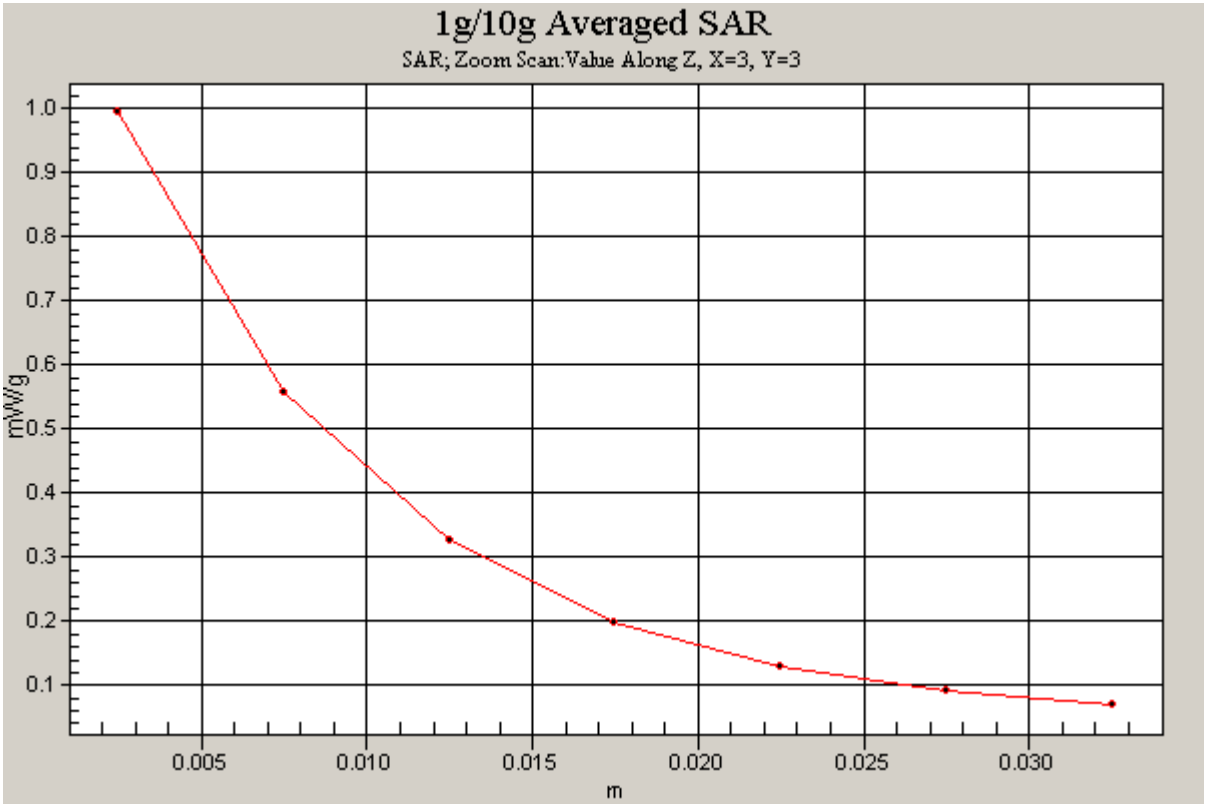




**Figure 90 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 270 degree Test Position 2 Channel 9400]**

**WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 3 Middle Frequency**

Date/Time: 7/25/2009 3:27:25 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 3 Middle/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.572 mW/g

**Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.9 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 1.17 W/kg
**SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.231 mW/g**
Maximum value of SAR (measured) = 0.697 mW/g

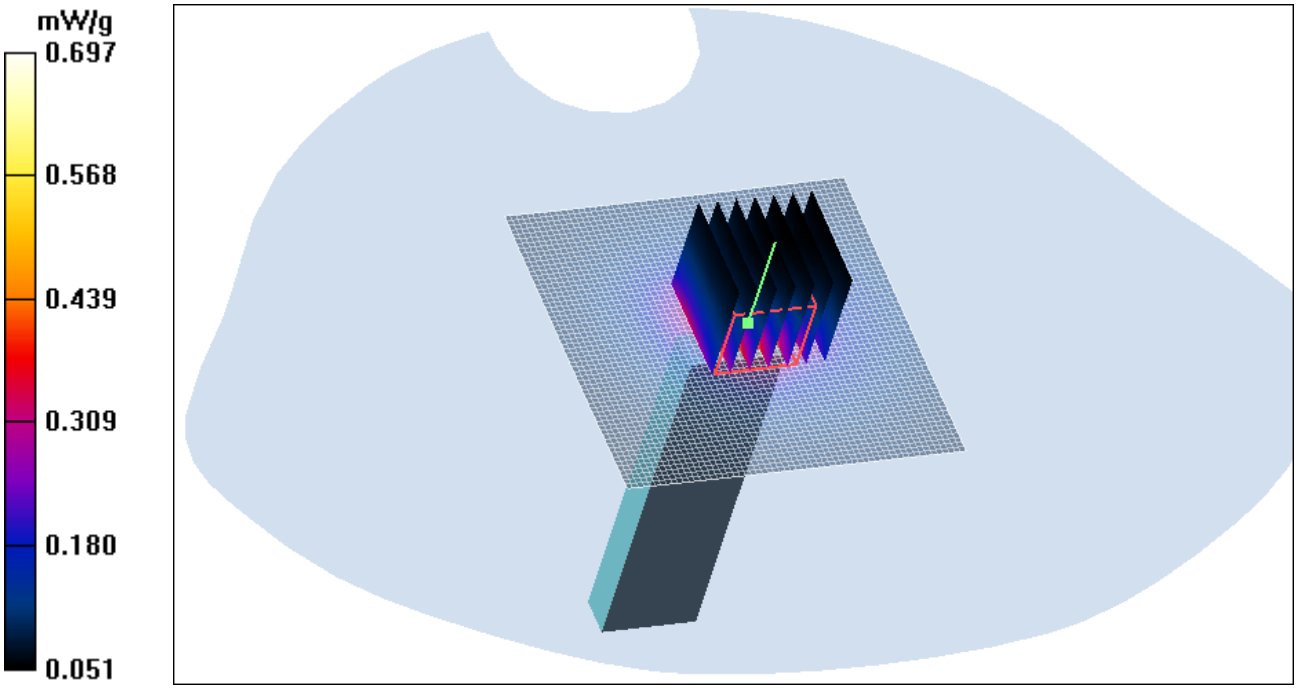



**Figure 91 WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 3 Channel 9400**

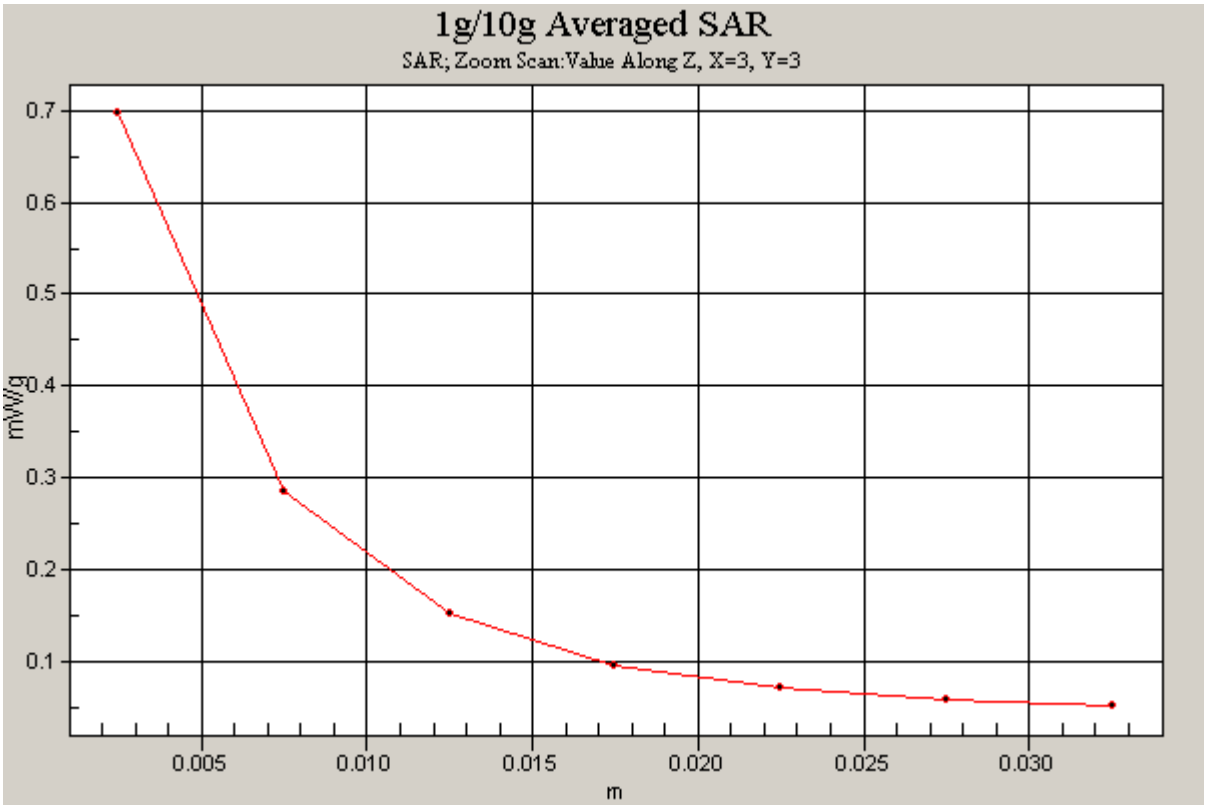



**Figure 92 Z-Scan at power reference point [WCDMA Band II with BenQ Joybook R55V 180 degree Test Position 3 Channel 9400]**

**WCDMA Band II with IBM T61 180 degree Test Position 4 Middle Frequency**

Date/Time: 7/25/2009 5:13:11 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Test Position 4 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.795 mW/g

**Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.2 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.03 W/kg
**SAR(1 g) = 0.630 mW/g; SAR(10 g) = 0.369 mW/g**
Maximum value of SAR (measured) = 0.804 mW/g

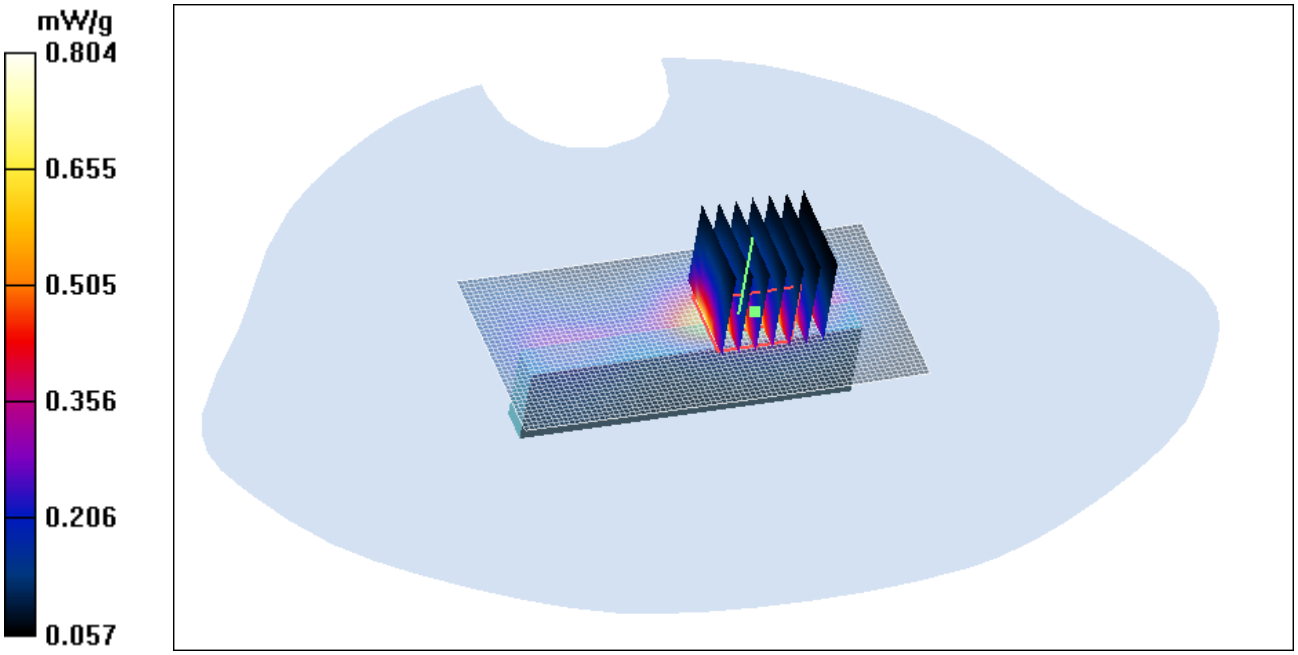



**Figure 93 WCDMA Band II with IBM T61 180 degree Test Position 4 Channel 9400**

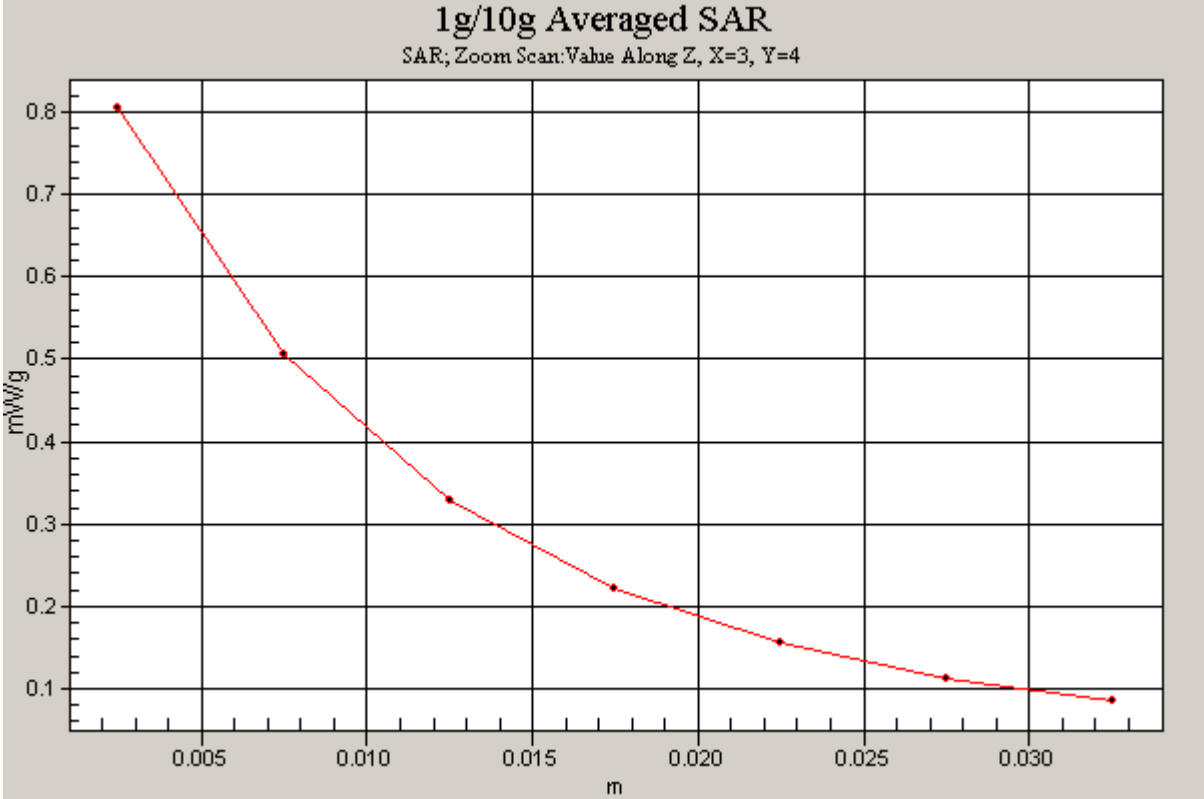



**Figure 94 Z-Scan at power reference point [WCDMA Band II with IBM T61 180 degree Test Position 4 Channel 9400]**

**WCDMA Band II with IBM T61 180 degree Test Position 5 Middle Frequency**

Date/Time: 7/25/2009 3:51:39 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 52.7; $\rho$ = 1000 kg/m$^3$
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008
Electronics: DAE4 Sn452; Calibrated: 11/18/2008
Phantom: SAM000 T01 ; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
**Test Position 5 Middle/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.823 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 1.15 W/kg
**SAR(1 g) = 0.665 mW/g; SAR(10 g) = 0.390 mW/g**
Maximum value of SAR (measured) = 0.869 mW/g
**Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.987 W/kg
**SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.364 mW/g**
Maximum value of SAR (measured) = 0.761 mW/g

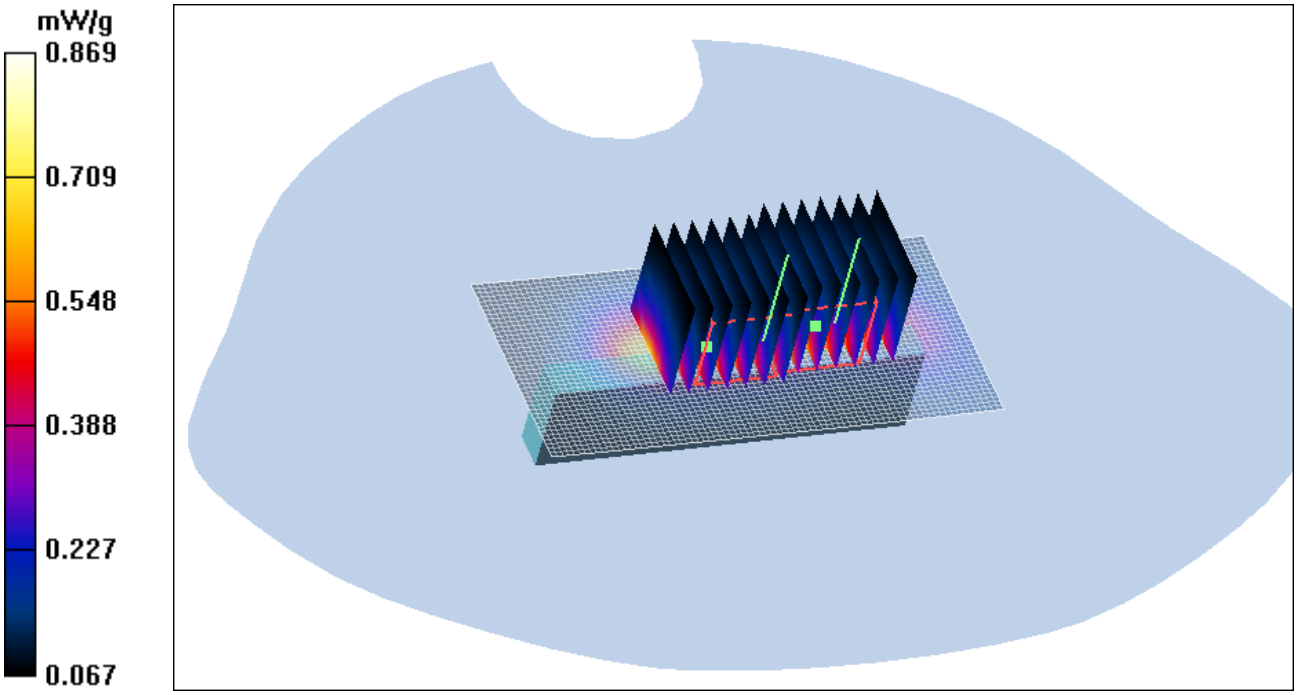
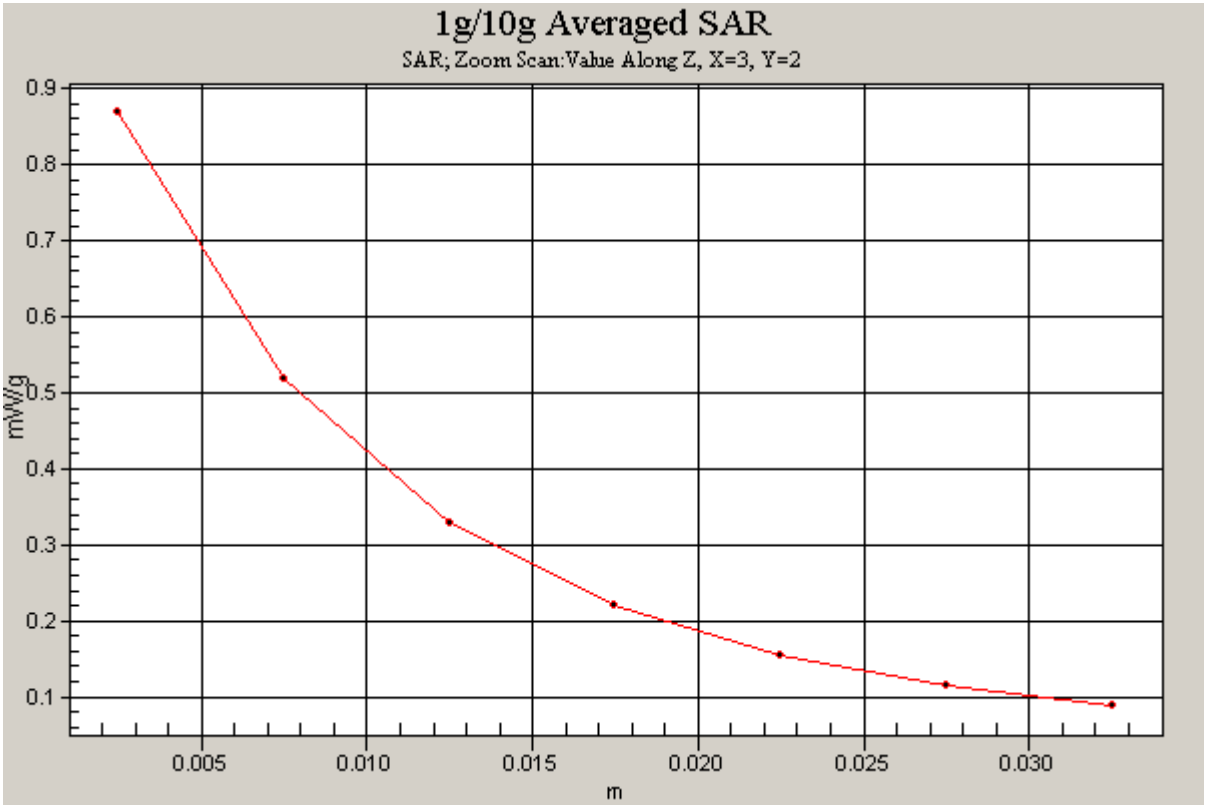



**Figure 95 WCDMA Band II with IBM T61 180 degree Test Position 5 Channel 9400**



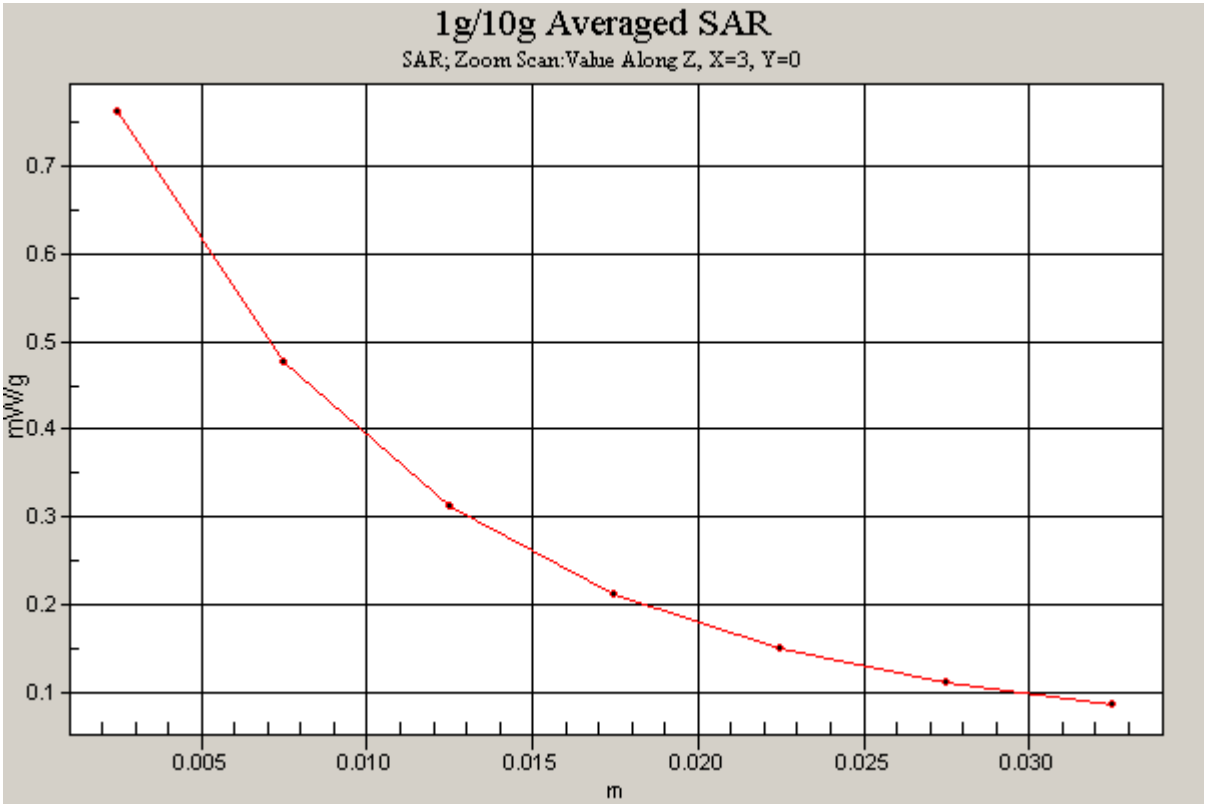




**Figure 96 Z-Scan at power reference point [WCDMA Band II with IBM T61 180 degree Test Position 5 Channel 9400]**